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A QUANTITATIVE ANALYSIS OF THE SOVIET ECONOMY

Volume I

Expansion of the 1972 Soviet Input-Output Tables

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Volume I

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FOREWORD

This is a two-volume report which describes the results of a research effort completed under the auspices of the Defense Nuclear Agency in support of the Office of the Secretary of Defense, Net Assessment. The objective of the research project was to improve the quality of published Soviet economic data so that it could more readily be used in analytic studies involving comparisons between the U.S. and Soviet economies.

Volume I, Expansion of the 1972 Soviet Input-Output describes the specific procedures that were used to restructure the Soviet data for better comparability with U.S. accounting practices; to estimate values for Soviet defense and other activities which are not contained in the 1972 Soviet I-C table; and to provide an approximate updating of the resulting I-O table to 1980.

Volume II, Analytical Comparison with the U.S. Economy, discusses an analytical comparison that was made between pricing practices and provides an estimate of the size of the Soviet economy in terms of foreign trade values.

ACKNOWLEDGMENTS

The expanded Soviet input-output data and resulting comparative analyses of the U.S. and Soviet economies that are described in this report were developed under a contract with the Defense Nuclear Agency in support of the Office of the Secretary of Defense (Net Assessment). DSA wishes to express its appreciation to Mr. Andrew Marshall, Director, Net Assessment, whose confidence and support made this research effort possible.

The expanded I-O tables developed here are derived from the 88-sector 1972 Soviet input-output tables as reconstructed by the Foreign Demographic Analysis Division of the Bureau of the Census. DSA wishes to express its gratitude to the Bureau for making these I-O tables available, together with numerous related working papers prior to their publication. We especially wish to thank both Dimitri Gallik and Barry Kostinsky for the advice and assistance which they provided. We also wish to express our appreciation to Vladimir Treml for his invaluable assistance as a consultant for the project.

DSA takes full responsibility for the final results of this research project and for any errors or oversights reflected in the expanded tables. However, without the assistance provided by these experts, the reconstruction and expansion of the Soviet I-O tables would not have been possible.

EXECUTIVE SUMMARY

For a wide variety of strategic policy studies, it is important to be able to analyze the U.S. and Soviet economic systems on a comparable basis. The ability to do so has been limited both by the incompleteness of existing Soviet economic data and by the lack of economic models that can deal with both economies on a comparable basis.

Several years ago, DSA provided a partial solution to the latter problem by developing an optimal control economic model that can be used to represent either the U.S. or Soviet economy. The present research effort has focused upon the former problem--providing a reasonably accurate and complete set of Soviet economic data which are compatible, in accounting format, with U.S. data. This volume describes in detail the methodologies used to accomplish this expansion of available Soviet data.

The essential elements of the expansion effort involved:

1. Breaking down the "final demand" portion of Soviet Input-Output tables--originally aggregated into only "private consumption" and "other final demand"--into the following components:
 - a. Defense
 - b. Government finance and administration
 - c. Government services (education, health and culture)
 - d. Private consumption

- e. Capital investment in production facilities
 - f. Foreign trade
 - g. Inventory change
2. Expanding the "production" quadrant to provide estimates of defense production and of those portions of the Soviet economy omitted from I-O tables because they are not "productive" industries. The additions to the production quadrant include:
 - a. Military production
 - b. Housing
 - c. "Non-productive" transportation and communications
 - d. Government and military personnel
 3. Expansion of the capital investment portion of the final demand quadrant to provide a breakdown of investment on an industry-by-industry basis, analogous to the capital flow tables contained in U.S. I-O data.
 4. Projection of all of the resulting 1972 Soviet I-O data forward in time to provide an approximate 1980 Soviet I-O table.

Our methodology for reconstructing the interactions among defense and nondefense activities--interactions which are not explicitly displayed in Soviet I-O tables--results in an independently estimated level of defense-related final demand. As might be expected, this estimate is substantially larger than officially published Soviet information, and it appears to be very compatible with CIA estimates of the size and structure of Soviet defense expenditures. This compatibility lends credibility to our methodology, which--to our knowledge--includes the only structural representation of the Soviet defense activity

that permits a first order examination of the effects of changes in military expenditures on all sectors of the Soviet economy.

The purpose of this expansion/reconstruction effort is to support economic policy studies by providing a more complete version of the Soviet economy in a form that is reasonably compatible with the standard representations of the U.S. economy. Because of the incompleteness of available Soviet statistics, our expanded/reconstructed Soviet economic data base is subject to a certain degree of error and uncertainty. Nevertheless, we believe that this data base represents a useful approximate reconstruction that can be of considerable value in support of policy-related economic studies.

1.0 INTRODUCTION

For a wide variety of strategic policy studies, it is important to be able to analyze the U.S. and Soviet economic systems on a comparable basis. The ability to do so has been limited both by the incompleteness of existing Soviet economic data and by the lack of economic models that are sufficiently general that they can deal with both economies on a comparable basis. Several years ago, DSA made an important step toward the goal of comparative economic analysis by developing a new form of economic model that could be used on a comparable basis for both the U.S. and the Soviet economies. The accuracy and reliability of results using the model, however, have been severely limited by the inadequacy of the available Soviet economic data. In order to meet the need for a more complete and adequate representation of the Soviet economy to support policy studies, the Office of the Secretary of Defense (Net Assessment) sponsored the present reconstruction of the Soviet economic data.

The expanded Soviet I-O tables described here are based on the 1972 Soviet Input-Output tables, as reconstructed in producers' prices by the Foreign Demographic Analysis Division of the Bureau of the Census (Ref. 1). In order to make these I-O data more useful for comparative economic studies, DSA has made the following modifications in the tables provided by the Bureau of Census:

1. The final demand portion of the economy, which was aggregated in the original version of the tables into only two components--"private consumption" and "other final demand"--has been broken down into the following components:

- a. Defense
- b. Government finance and administration
- c. Government services (education, health,
- d. Private consumption
- e. Capital investment in production facilities
- f. Foreign trade
- g. Inventory change

2. The production portion of the economy has been expanded to include an estimate of defense production, together with an estimate of those portions of the Soviet economy which were omitted from the original table because, according to Marxist doctrine, they are not "productive" industries. The additions to the production quadrant of the tables include:

- a. Military production
- b. Housing
- c. Non-productive transportation and communications
- d. Government and military personnel (for comparability with U.S. data)

3. The capital investment portion of the final demand quadrant has been expanded to provide a breakdown of such investment on an industry-by-industry basis, analogous to the capital flow tables that are available with the U.S. Input-Output tables.

4. The entire input-output table has been projected forward in time, to provide an estimated 1980 version of the table.

To permit as direct a comparison with U.S. input-output data as possible, a sector-by-sector concordance has been developed between the Soviet sectors and the detailed U.S. input-output sectors that are used by the Bureau of Economic Analysis of the Department of Commerce. In order to make this concordance possible, it was necessary to aggregate some of the Soviet sectors whose detailed structure is incompatible with the detailed structure that is available in the U.S. tables. In particular, "refractory materials" was combined with "ores and metals," "peat" was combined with "coal," "oil shales" was combined with "oil extraction," "roofing materials" was combined with "other construction materials", and the Soviet textile classification--cotton, silk, wool, and flax materials--were combined into a single sector called Textiles. As a result of these aggregations, the original 88-sector representation of the Soviet data was reduced to 81. With the addition of military production, housing, non-productive transportation and communication, and government and military personnel, the total number of production sectors in the expanded data base is 85.

As noted earlier, the purpose of this reconstruction is to support economic policy studies by providing a more complete version of the Soviet economy in a form that is more compatible with the standard representation of the U.S. economy. Because of the incompleteness of the available Soviet statistics, the expanded reconstruction is inevitably subject to a certain degree of error and uncertainty. Nevertheless, we believe that it represents a useful approximate reconstruction that should be of considerable value in the support of policy-related economic studies.

The following section describes the methodology that was used in constructing the expanded version of the input-output tables. Section 4.0 explains the process used to approximately update the I-O tables to the 1980 time period.

2.0 EXPANSION OF THE 1972 SOVIET INPUT-OUTPUT TABLES

2.1 BACKGROUND

The DSA economic model was originally developed as a post-attack model that could be used to assess the potential for economic recovery following a nuclear war. In order to apply the model to the Soviet economy, it was necessary to obtain input-output data for the Soviet Union in a more complete form than was then available. To meet this immediate requirement for an extension of the Soviet input-output data, DSA undertook, in 1980, a very low-cost extension in which U.S. input-output data were utilized to fill in missing portions of the Soviet data.

Although the 1980 reconstruction of the missing parts of the Soviet economy was not very accurate, it provided the missing numbers that were essential to operate the model. Fortunately, the missing elements of the economy that had to be reconstructed in this way were not very critical to the analysis of post-attack economic recovery; thus, the inaccuracies in the reconstruction were not very important. However, it soon became apparent that the DSA economic model was not limited to economic recovery scenarios, and that it could potentially be used much more widely to analyze possible economic responses to almost any form of economic disruption, ranging from energy shortages and trade disruptions to large-scale natural disasters. For these new applications of the model, the quality of the reconstruction of the missing parts of the Soviet economy is much more important.

The present reconstruction and extension of the Soviet input-output data were therefore undertaken because the usefulness of the analysis results provided by the model was being severely limited by the quality of the available data. Although the accuracy of the present reconstruction could undoubtedly be improved with more effort, we believe that many of the remaining inaccuracies are inherent in the available data,

and thus cannot be removed without additional hard data concerning the Soviet economy.

2.2 OVERVIEW OF THE RECONSTRUCTION

As discussed previously, the goal of the present reconstruction of the Soviet data was to develop a computer-readable data base that could be used at any desired level of aggregation for policy studies. For this type of application it is essential that the data base include a quantitative estimate for every required data element, even for cases where the estimate itself is subject to great uncertainty.

One of the major problems that had to be faced in planning the reconstruction process, therefore, was to ensure that some reasonable estimate be provided for all of the required data elements, despite any problems that might be encountered with regard to the availability of reliable Soviet data. The basic strategy that was adopted for the reconstruction process was therefore designed to use two different data sources. Wherever actual Soviet data was available, either in the form of the actual data element or in the form of control totals, these data were used. On the other hand, to be sure that reasonable numbers could be filled in even in areas where no Soviet data could be found, a methodology was developed which made it impossible to utilize the U.S. input-output tables to generate estimates of the missing Soviet data elements.

Originally, we had expected that a substantial part of the missing data might have to be generated through the use of this methodology for mirror-imaging U.S. data. However, as the reconstruction process continued, we were able to identify more and more Soviet information that could be used to estimate the missing data elements. As a result, the mirror-imaging methodology was used in only a very limited way to estimate detailed data elements in the final reconstruction in those cases where the available Soviet data were more aggregated than our 85

sector table. Soviet military production and defense consumption are the only major areas where no detailed Soviet data could be found, and it was necessary to use the mirror-imaging methodology more broadly. Indeed, even in these areas, the results are not very sensitive to the mirror-imaging methodology, because the structure of the defense activity is very strongly constrained by the availability of resources that are left over after we have accounted for the resource requirements of capital investment, trade, and the so called "non-productive" industries.

On the other hand, large portions of the reconstruction are based on Soviet data that are not ideal for the purpose. In some cases it was necessary to make estimates based on Soviet data that were available for some year other than 1972, the base year of the reconstruction. In other cases, it was necessary to estimate some of the numbers indirectly. For example, the mix of resources invested in production capital on an industry-by-industry basis was estimated from a detailed breakdown of the existing inventory of fixed capital in each industry, and from related information concerning the percentage rates for the introduction of new capital and the retirement of old capital. Although such estimates are obviously not entirely satisfactory, they appeared to be considerably more reliable than any estimates which could be provided by the mirror-imaging process.

It is worth calling attention to the fact that the present reconstruction process yielded as a by-product an independent estimate of the level of Soviet defense-related expenditures in 1972. As it happens, the resulting estimate that is provided in this way is very consistent with published CIA estimates for the same year. Our analysis suggests that the total effective Soviet expenditures for defense-related activities in 1972 (including clothing and allowances for military personnel, together with Space and R&D expenditures) were somewhere between 56 and 60 billion rubles--the nominal value that appears in our final

reconstruction is 57.6 billion rubles. The inherent uncertainty in the available input-output data seems to preclude the development of a more accurate estimate based on this methodology alone.

The methodology also yields an estimate of the structure of the defense-related expenditures which may be of considerable value in policy-related analytical studies. Once again, to the extent that it is possible to make a comparison, our ruble results appear to be compatible with the published CIA estimates. In general, our extension of the reconstructed Soviet I-O data seems to be quite successful in identifying intermediate and final demand uses for the products of Soviet industry such that the estimated consumption is close to being in balance with production, even before the final reconciliation of the row and column totals in the I-O table.

There is, however, one notable exception to this general rule. When all of the probable applications for "construction" in the economy are estimated and totaled, they fail to account for approximately 20% (or 15 billion) of the estimated 77 billion rubles in total construction activity. At the present time, we have no way of knowing whether this discrepancy is indicative of a basic flaw in our estimates of the construction requirements, or whether it is an indication that the Construction sector is being used in some way as a mechanism for hiding defense-related activities that could be substantially in excess of our present estimate.

Clearly, however, it would have produced a very unbalanced defense budget if we had simply increased defense construction by this very large unexplained construction budget. Lacking any satisfactory explanation of the discrepancy, we chose instead to maintain a more reasonable balance in the defense budget. This decision left the large difference between the production and consumption of "construction" as a problem that had to be

corrected in the final reconciliation of row and column totals. As a result of this decision, the activity level for construction has been reduced appreciably below the value shown in the original Department of Commerce tables, and all of our estimates of the consumption of construction have been correspondingly raised in order to balance the table with minimum distortion in any of the individual estimates.

In a discussion with Bill Lee, of the Defense Intelligence Agency, following the completion of this reconstruction, he suggested that some portion of this discrepancy in the construction sector might be accounted for by Soviet construction activities in civil defense shelters and industrial hardening. We have not, however, had the opportunity to explore the possibility in any depth.

2.3 THE RECONSTRUCTION PROCESS

2.3.1 Objectives of the Reconstruction

The objective of the present reconstruction was to develop an input-output representation of the Soviet economy in a form that is as compatible as possible with the available U.S. data. Figure 2-1 shows a broad comparison of the U.S. and Soviet data which are available for developing such a comparable representation. The lower portion of the figure illustrates the types of information that are available for the U.S. economy. The cross-hatched areas in the upper part of the figure show corresponding portions of the required data that were available for the U.S.S.R. at the start of the present reconstruction effort. The objective of the reconstruction, of course, was to fill in the missing Soviet economic information. The remainder of this section discusses the missing information in more detail.

The U.S. data consists of a set of matrices that are designed to account for all of the flow of economic resources in the economy. The matrices as shown in the figure correspond to

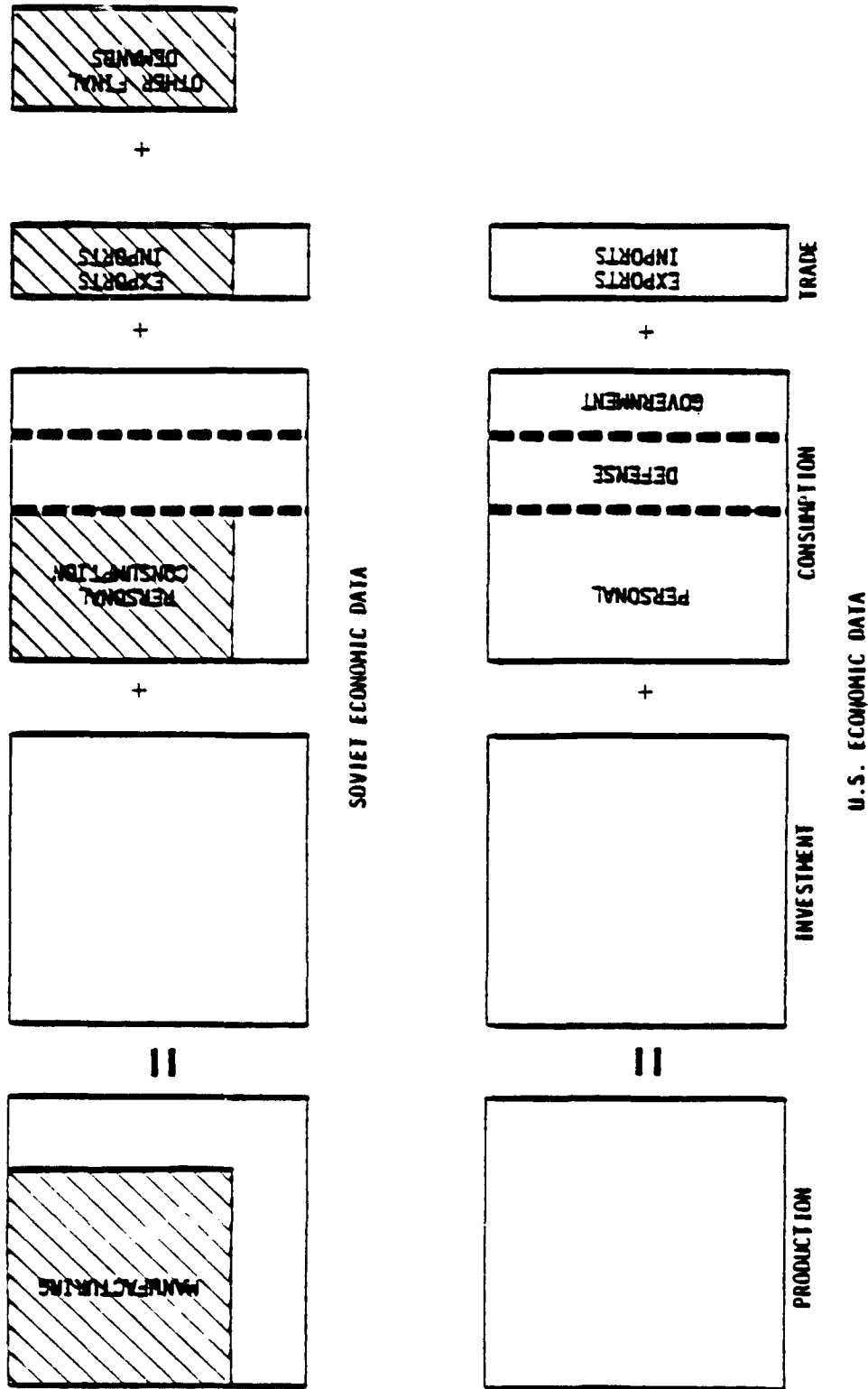


Figure 2-1. Over-view of Missing Soviet Data

"production," "investment," consumption," and "foreign trade." Each of these matrices is composed of a set of rows which correspond to the resources that are used in the economy, and a set of columns that correspond to the economic activities within the economy. The individual entries within each matrix specify the ruble (or dollar) value of the row resource that is used by the column activity.

In the U.S. economic data, all of the indicated entries are available. The production matrix indicates the mix of resources required by each productive sector; the investment matrix shows the mix of resources invested in new production facilities for each productive sector; the consumption matrix shows the amount of each resource consumed for personal consumption, defense, and other government activities; and the trade matrix shows the amount of each resource that is exported or imported. Imports are conventionally shown as a negative entry so that the total of all the numbers in each row, when summed over all of the matrices, should be equal to the total production of the commodity in question.

In contrast, the Bureau of the Census reconstruction of the 1972 Soviet Input-Output table (Ref. 1) does not provide comparable detailed data. The production data (illustrated by the cross-hatched area in Fig. 2-1) covers only the "productive" sectors; i.e., those that contribute to the production of a physical product. The "non-productive" industries such as services, housing, etc., are not included and, of course, the defense-related production is at least not explicitly contained in the available Soviet data. In the producers' price version of the Bureau of Census tables, all final demand is aggregated into just two parts--personal consumption and "other final demand." In the purchasers' price version, imports and exports are reported separately from "other final demand," but there is still no breakout of the other elements of final demand. Thus the objective of the DSA reconstruction effort has been to extend the

Soviet tables by filling in whatever data that is required in order to display the Soviet economy in a format as similar as possible to the one that is used for the U.S. economy.

2.3.2 Developing a Correspondence Between U.S. and Soviet Sectors

In order to be able to use the U.S. data to fill in missing information in the reconstruction, it was necessary to develop a reasonably accurate correspondence between the U.S. and the Soviet economic sectors. The premise underlying the use of the U.S. data for this purpose was that the basic production processes in the U.S. and the Soviet economy ought to be fundamentally quite similar. For example, the process for making steel in both countries should require both coal and iron ore as raw materials.

Obviously, the input-output transaction tables for the two countries are quite different because the levels of production in the various sectors and the prices of the products are quite different. However, if one could correct these differences in the prices and activity levels, one would expect the differences to be much smaller, so that it might be feasible to use the U.S. data to provide a rough estimate of some of the missing Soviet data. Of course, the technology in the two countries is not really the same, and there are also important differences in the mix of products represented within the same aggregated sectors, so one still cannot anticipate a really accurate correspondence. Nevertheless, as expected, the correspondence proved to be good enough to provide reasonable estimates in the absence of other relevant data.

Because Soviet industrial technology tends to lag behind the U.S. technology by several years, we chose to use the 1967 U.S. input-output tables (Ref. 3) on the assumption that the technology represented in these would provide the best

correspondence to the 1972 Soviet technology. To provide maximum flexibility in developing a good correspondence between the U.S. and the Soviet economic sectors, it was decided to use the detailed version of the 1967 U.S. tables, which include a total of 468 industrial sectors. The development of the U.S.-Soviet concordance involved an iterative process in which trial U.S.-to-Soviet concordances were developed and tested for compatibility with the available Soviet data.

To provide a starting point for this iterative process, an initial trial concordance was developed based on our personal judgment of similarities in the names and descriptions of the sectors, together with previous work on a similar concordance that had been done by Laurie R. Kurtzweg while she was with the Foreign Demographic Analysis Division of the Bureau of the Census. This initial trial concordance was then tested against the actual Soviet data and was gradually refined until the obvious errors in the concordance were removed.

To test a trial concordance for compatibility, the U.S. data was first aggregated into the Soviet sectors in accordance with the trial concordance. Activity levels and prices in the resulting U.S. data were then adjusted to provide the best possible fit to the Soviet production matrix. Typically, this process would produce a good fit to the Soviet data for some rows and columns and a poor fit for others. Where the fit was unsatisfactory, the concordance was critically reexamined. In most cases, it was fairly simple to identify the source of the major inconsistencies, and the trial concordance was corrected accordingly. The final concordance that resulted from this iterative process is included as Appendix A to this report.

2.3.3 Assessing the Correspondence

Before using the resulting concordance as a tool in the reconstruction of certain missing Soviet data, a quantitative test was made to assess the validity of our initial expectation that

there should be a good correspondence between the U.S. and Soviet industrial processes as they are reflected in the input-output data. To make this test, the U.S. data (as aggregated in our final concordance) was adjusted to correct for the differences between the U.S. and Soviet prices and activity levels, and the revised U.S. production matrix was then used to "predict" the Soviet production matrix. The "predicted" matrix as derived from the U.S. data was then compared quantitatively with the actual Soviet matrix (for the 81 sectors for which data were available for both countries) to determine the degree of mathematical correlation between the two matrices.

As expected, the two matrices showed a very high degree of correlation. The calculated mathematical correlation was more than 80%, even using the nominal foreign trade price relationships between the two countries, as reflected in the difference between Soviet prices in "internal" and "external" rubles. (Specifically, for this calculation--since the price ratios are somewhat different for imports and exports--we used a geometric mean between the price ratios shown for imports and exports in Ref. 2. When the assumed price relationships were adjusted to provide the best correlation between the predicted and actual Soviet data, the calculated correlation improved to 94.7%. For a more detailed discussion of this correlation analysis, the reader is referred to Appendix B.)

For the present, it is sufficient to note that this level of correlation is indicative that the concordance between the sectors is quite good, but it does not imply a high level of quantitative accuracy in the predicted matrix. To interpret the significance of a 95% mathematical correlation, it is useful to think of two different types of discrepancies that can exist between the predicted and actual Soviet matrices. The first type of error reflects a specific mismatch in the types of materials used in a process. It can result from an error in the concordance, or it can reflect an actual difference in the

resources used to produce a commodity--for example, in a situation where coal is used in a process in the U.S.S.R. but fuel oil is used in the same process in the United States. The second type of error reflects a quantitative difference in the amount of specific resources required for a process. This second type of error can result from errors in estimating the relative prices of the resource in the two countries, or it can reflect an actual difference in the amount of the resource used to produce the commodity in question.

A correlation of 95% implies that the probability of mismatches or discrepancies of the first kind in the comparison does not exceed 5%. It also implies that the average quantitative error in the amount of each resource used does not exceed 33%. If we assume that the imperfections in the correlation can be attributed about equally to the two types of discrepancy, then we might estimate that the frequency of actual mismatches in the data is about 2.5% and that the probable percentage of quantitative error in the predicted data is a little less than 25%. Although this level of quantitative accuracy is good enough to be useful when no other estimates are available, it is not good enough to be used if other estimates can be obtained. Thus, in our reconstruction process, we have used data from other sources whenever available, and have relied on the U.S. mirror-image methodology only for cases where no better data could be found.

2.3.4 Reconstruction Methodology

The overall strategy for the reconstruction was determined in large measure by the desire to provide as good an estimate as possible of the missing defense-related activities. Since, for all practical purposes, no real Soviet data is available for these activities, our approach was to estimate as accurately as possible the resource requirements for all the non-military parts of the economy, and then to apply the unused residual resources

to estimate the defense components. The steps of the reconstruction process were therefore planned in such a way that all the unused residual resources produced by each sector of the economy could be accumulated in a single "residual" pool of resources which could then be used to analyze the defense-related activities at the end of the process.

Since in many cases the Soviet data that is actually available is in a more aggregated form than the input-output data, the resource requirements for missing activities were initially estimated on a very approximate basis by using the U.S. mirror-imaging methodology. The use of this methodology made it possible to maintain the desired level of detail of the input-output reconstruction. But the initial approximation was subsequently adjusted as required to match any control totals that could be obtained from available Soviet data. In those cases where the available Soviet data included the full level of detail required for the table, this process simply replaced the mirror-image approximation with the actual Soviet data. In cases where the Soviet data was not available at the required level of detail, this approach still ensured that the reconstruction would match the available control totals, but at the same time it preserved the detail or fine structure desired in the final input-output table.

The selection of the final reconstruction method was itself an iterative process, in which a number of alternative approaches were tried and evaluated, and changes were made in the method as we became aware of additional relevant Soviet data. No attempt will be made here to describe the evolutionary development of the reconstruction methodology. The actual procedure that was used to generate the final version of the reconstruction is, however, described in some detail in the following section.

2.3.5 The Reconstruction Process

The six major steps of the reconstruction process are diagrammed in Figure 2-2. Each level in the figure represents a different step. The process begins with the original Soviet input-output data as provided by the Bureau of the Census and shown at the top of the figure. The process terminates with step 6, shown at the bottom of the figure. This final step provides an estimate for defense-related activities and reconciles row and column totals to provide a usable input-output table. The following subsections provide an overview of the computational methods used at each step.

2.3.5.1 Step 1--Improvement of Input Data

The basic input data for the reconstruction consists of the 88-sector Soviet Input-Output table, as supplied (on magnetic tape) by the Bureau of the Census. The data at this stage corresponds to that published by the Bureau of the Census (Ref. 1). It includes an 88-sector production matrix and a final demand quadrant which is limited to three components: private consumption, retail inventory change, and other final demand.

Before proceeding with the rest of the reconstruction, a number of minor changes were made in the input data to improve their compatibility with U.S. data.

In Soviet accounting practice, the repair of capital equipment is treated as an "investment," and is included as a component of "final demand," rather than as a resource requirement for the production activities in the first quadrant. To reflect these hidden costs of production, Soviet industries are effectively taxed for "depreciation" costs that include the cost of capital repair in addition to long-term obsolescence of capital facilities. For the present reconstruction, it seemed desirable to represent the capital repair requirements for production, as one would in U.S. accounting practice. To make

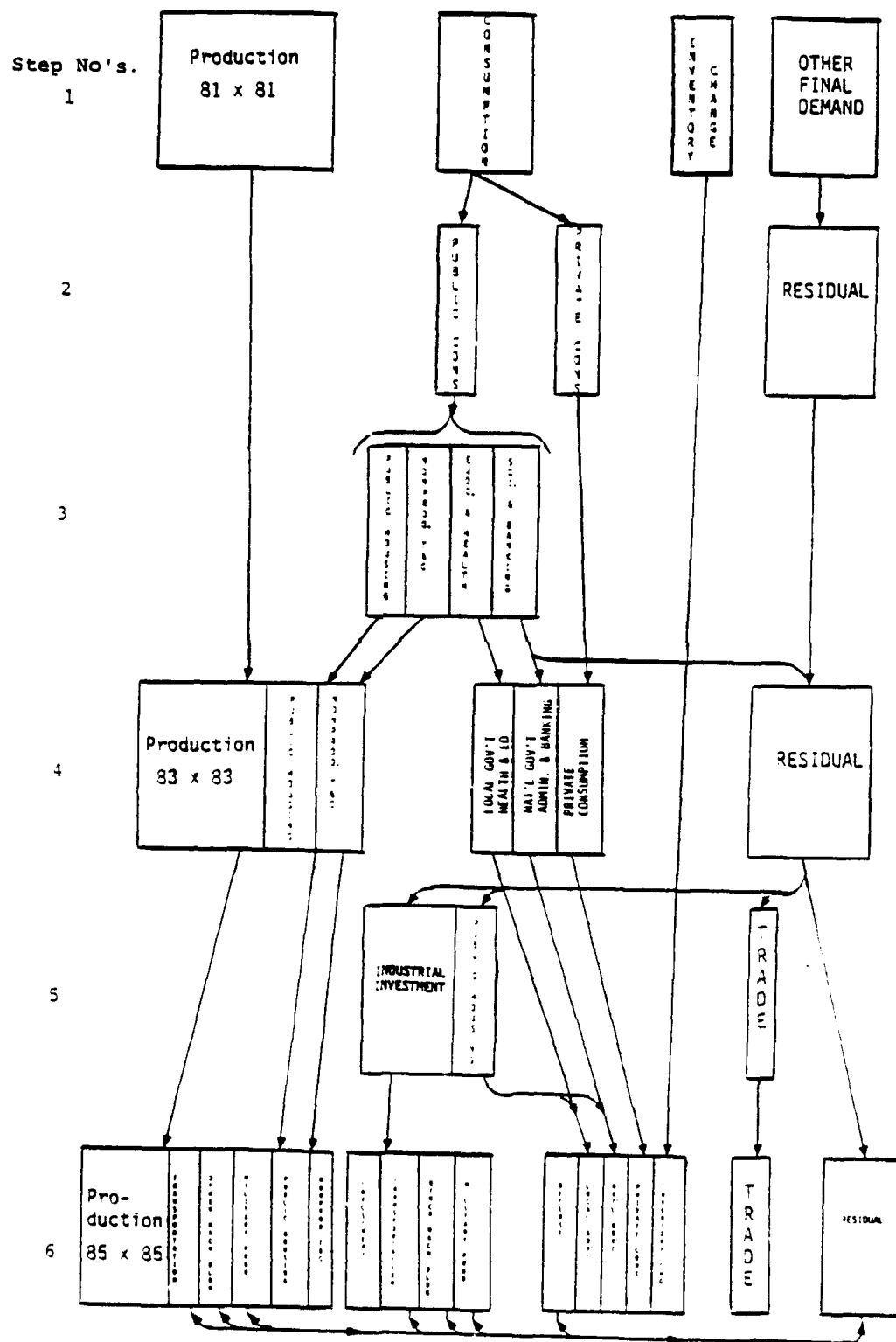


Figure 2-2. Diagram of Reconstruction Processing Steps

this adjustment, the capital equipment repair component of the capital depreciation for each industry was estimated from available Soviet statistics, and removed from the "capital depreciation" cost. It was replaced by a direct requirement for services from the capital equipment repair sector.

In contrast, in Soviet practice, maintenance activities are included as part of the internal operation industry. To provide better comparability with the U.S. data where capital maintenance is treated as an output of the repair sector, we decided to expand the Soviet repair industry to include maintenance activities. To accomplish this, we utilized a procedure suggested by Vladimir Trem1 to estimate the capital maintenance inputs to each of the basic 88 production sectors. These estimated capital maintenance inputs were then removed from the input requirements for each sector, and were aggregated into a new maintenance column, which was then merged with "repair" to produce an augmented "repair and maintenance" activity. To maintain the proper balance in the table, the maintenance inputs that were removed from each production activity were replaced by an equivalent input from the augmented repair and maintenance activity.

Because of the importance of resource residuals in estimating the defense activities, an effort was made to account for all of the residuals as accurately as possible. As a consequence, the input data concerning inventory change were adjusted at the outset to reflect any additional data that Professor Trem1 was able to supply concerning changes in wholesale and national reserve inventories (in addition to the retail inventory changes included in the tables). These adjustments were made in the "inventory change" column, and "other final demand" was adjusted to compensate.

Finally, the remaining production matrix with 88 rows and columns, together with the residual column and the final demand columns, were aggregated to combine those sectors which do not have a good correspondence with standard U.S. sectors. As noted earlier, this process resulted in a reduction of 7 sectors, so that the resulting matrix at this point included 81 sectors.

2.3.5.2 Step 2--Separation of Public and Private Consumption

The purpose of this step is to separate the total pool of consumption into two parts corresponding to public and private consumption. Although the available 1972 Soviet input-output data does not include any such breakdown, the required breakdown did not appear in the producers' price version of the 1966 Soviet table as reconstructed by Trembl, Gallik, and Kostinsky (Table 1-2 of Ref. 2). In order to provide an estimate of the distribution of consumption between public and private consumption in 1972, we decided to divide the 1972 consumption for each resource between public and private consumption in exactly the same proportions as appeared in the 1966 data.

The assumption that the division of resources between public and private consumption would be the same in 1972 as in 1966 is obviously very rough. In all probability, the percentage of public consumption in 1972 is somewhat higher. However, because public consumption is only about 10% of total consumption, the effect of any reasonable shift in this percentage on the overall results is likely to be small.

2.3.5.3 Step 3--Decomposition of Public Consumption

In order to put the Soviet data in a format compatible with the U.S. tables, it was necessary to decompose public consumption into its various components. Some of these components, such as "public housing" and "non-productive transportation and communications", serve functions in the Soviet economy that are analogous to service industries in the United States. Others,

such as "health, education, and culture" and "science, banking, and administration," are more nearly analogous to the public services provided by local and national governments in the U.S.

The required breakdown of Soviet data is not available, either in the 1972 tables data or in the more detailed 1966 tables, but it is provided in an aggregated table as reconstructed by Trembl et al. in Table 1-3 of Ref. 2. Although this table is in purchasers' prices, rather than producers' prices, the proportions shown for the allocation among the components should be much the same in either price system, since the turnover tax generally is not applied to public consumption. For the present reconstruction, we simply divided the public consumption, as calculated in step 2, between the four subcategories in exactly the same proportions as are shown in Table 1-3. Since Table 1-3 includes only 15 aggregated sectors, the proportions shown for these aggregated sectors were applied to all of the detailed sectors in the present reconstruction that are included in each of the aggregated sectors of Table 1-3.

2.3.5.4 Step 4--Removal of "Defense Consumption"

Soviet accounting practice makes a sharp distinction between defense "investment," which involves the purchase of new weapons and the stockpiling of supplies, and defense "consumption," which involves the actual expenditure of fuel, food, ammunition, etc. According to published Soviet accounting practice, all defense "consumption" is supposed to be included within the category called "public consumption"; more specifically, it is supposed to be included in that portion of public consumption labeled "science, banking and administration." In fact, by U.S. accounting concepts, this is difficult to believe because the total size of this activity in 1966 is only about 10 billion rubles. This suggests the possibility that the Soviets may have a different definition of defense "consumption," or that some of the defense consumption is otherwise hidden in their accounts. However, regardless of what fraction of defense

consumption is actually represented within this category, it is desirable for the present reconstruction to separate it from the resource requirements of the genuine administration and banking functions.

No Soviet data was found that seemed to provide a reasonable way of making this separation. Intuitively, however, the separation did not seem to be a very difficult one to make so long as one's accuracy requirements are not too high. Even with a casual examination of the resources being consumed, it seems rather easy to identify many that seem to be predominantly attributable to military activities and to military research and development. Others are quite obviously appropriate for the administration and banking functions. To provide a plausible way of dividing the resources depending on whether they are predominantly related to military or non-military applications, it was decided to use as a guide the final demand vectors for consumption by the U.S. federal government for "defense" and "non-defense" as generated by our mirror-imaging methodology. Using these vectors as a guide, we assumed that each resource was divided between Soviet defense and non-defense consumption in exactly the same proportions as it is divided between these activities of the U.S. federal government.

This simple procedure seemed to produce a very reasonable separation between the two types of consumption. The bulk of the military-like resources were attributed to the military applications, and the bulk of the administration and banking functions. As it turned out, about three-fourths of the total of this "science, banking and administration" account was ascribed to defense and defense-related applications, while about one-fourth appeared to be genuine administration and banking. The portion of each resource thus identified as defense-related was transferred to the residual pool, and the remainder was relabeled "National Government, Administration and Banking."

2.3.5.5 Step 5--Estimation of Capital Investment and Trade

The purpose of step 5 is to develop quantitative estimates of non-defense component pools so that these may be removed, leaving only the defense-related portion of the residual to be processed in the final step.

We consider first the procedure used to estimate the capital investment or capital flow matrix. To ensure that all the required details would be preserved, a detailed but very approximate capital investment vector was estimated for each of the production sectors using the mirror-imaging methodology.

Our next objective, of course, was to adjust these estimates to reflect as accurately as possible the actual Soviet capital investment activities. Since we were not able to obtain relevant data on the actual resource composition of Soviet capital investments, we decided to use information that was available concerning the composition of the inventory of fixed capital. Specifically, we utilized a detailed estimate of the "Structure of Fixed Capital Stock in the Soviet Union--1972" which was supplied by the Foreign Demographic Analysis Division of the Bureau of the Census. This tabulation provided an estimate of the fixed capital stock for 85 industrial sectors, broken down into 25 different types of capital.

In order to convert the above data on fixed capital inventories into an estimate of capital investment rates, it was necessary to obtain information about typical percentage rates for the introduction of new capital and the retirement of old capital in the various types of Soviet industries. Although we were unable to obtain such information for 1972, Professor Trembl was able to supply a tabulation for 1973, which was labeled "Placement into Operation and Retirement of Industrial Fixed Capital by Sectors of Industry in 1973." This tabulation provided the required percentage rates for 18 aggregated industrial sectors. For each sector, separate percentage rates

of capital addition and capital retirement were defined in the table for (a) buildings and structures, (b) machinery and equipment, and (c) other types of fixed capital. By combining this information on percentage rates for the introduction of new capital with the data on the inventory of fixed capital, we were able to generate a total of 25 separate control totals for components of capital investment for each of the productive sectors.

The estimation of capital investment for the non-productive industries followed the same conceptual approach, but was somewhat less reliable because of limitations in the available data. The fine structure obtained by mirror-imaging the U.S. data was improved by multiplying each row of the nonproductive industries by the average in which each row for the productive industries was multiplied in the previous process. The total activity level for each nonproductive industry was then adjusted to the CIA estimate of total investment for that industry. "Public" investment (for education, health, and other service industries) was transferred to local and national government consumption, and the resource requirements for all of the foregoing were subtracted from the residual pool.

The final process in this step concerned the estimated of Foreign Trade. The domestic value of Soviet foreign trade in purchasers' prices has been established by the Bureau of Census in a study by Trembl and Kostinsky (Ref. 5). The 1972 input-output data (Ref. 1), as reconstructed by the Bureau of Census, includes this same estimate of foreign trade in purchasers' prices, but it does not include such an estimate in producers' prices as required for this reconstruction. To fill in this gap, Professor Trembl suggested an approximation methodology for converting the trade data from purchasers' prices. This methodology is described in Appendix C of this report. The net effect of the estimated trade was then removed

from the residual and used to provide the trade component of final demand as required for the reconstruction.

2.3.5.6 Step 6--Estimation of Defense and Final Reconciliation

At the beginning of step 6, all resource requirements except those believed to be required for defense-related industries and defense-related final demand had been removed from the residual pool. The remaining task therefore was to develop estimates for these missing defense elements, and to carry out a final reconciliation of the row and column totals.

Before discussing the actual methods used to estimate the defense-related activities, it may be helpful to review some of the common ideas about the way Soviet defense expenditures are obscured in the published input-output tables. Although it is obvious that the Soviet defense-related expenditures represent a major portion of real national expenditures, the defense expenditures are not even mentioned in the published input-output statistics. This is remarkable because there is strong evidence that the published tables are derived from official financial statistics that are actually used by Soviet planners in their decision processes. Moreover, there is considerable evidence that the original input-output table, from which the published data is derived, was a complete table in the sense that it checks with Soviet employment statistics and other relevant national economic statistics.

There are several common hypotheses about how and where the defense expenditures may be hidden in the data. Three of the most common ideas are:

1. Military production is included as an integral part of the production of many different sectors that are labeled with non-military names.

2. Some of the final assembly of military equipment may be done in such a way (for example, by the military themselves) that it does not show in the normal industrial statistics.

3. A major portion of military production appears to be concentrated in two key sectors; specifically, "radio and other machine building" (OMB) and "transportation machinery and equipment" (M&E).

Professor Trembl has shared with us an additional tentative hypothesis that he has been developing which suggests that the detailed resource requirements for certain key military-related industrial sectors may have been deliberately distorted in the published Soviet data to hide the military character of the production, and that the distortion was implemented in such a way that the total resources that remain in "other final demand" and appear to be available for military applications were reduced substantially below what existed in the original Soviet data.

Basically, his hypothesis is as follows. In the original Soviet tables, he conjectures that the key military production industries (radio and OMB, and transportation M&E) were each represented by two separate columns--one for military and one for nonmilitary production. When the data was sanitized for publication, these two types of columns were aggregated into one. Before they were aggregated, however, the nonmilitary resource requirement vectors were substituted into the military production column, while retaining the same level of production activity. To make the resulting tables balance, a new column representing the differences between the resource requirements for military--as opposed to civilian--production was entered into the category labeled "other final demand." Since military production in general tends to be more labor intensive, and thus uses less physical resources per unit of production than does nonmilitary production, the compensating column in other final demand contained mostly negative entries--thus reducing the apparent

resources in "other final demand" that would appear to be available for military applications.

Our goal in the present effort was to devise a reconstruction procedure that would produce a reasonable estimate of the defense-related activities, regardless of what combination of the above methods the Soviets actually use to obscure their defense-related production activities. As noted earlier, our approach was to account as accurately as we could for all nonmilitary resource requirements within the economy, and then to adjust the level of activity for the defense-related industries in such a way that they would provide as accurate an explanation as possible of the residual resources that were not required for the nonmilitary activities.

Accordingly, at the beginning of step 6, we added to the residual pool all of the resources associated with the production of and investment for "transportation machinery and equipment" and "radio and other machine building," including both the military and nonmilitary production of these key sectors.

To represent the military portion of this production, and to account for any other military production not otherwise represented in the data, we introduced a new economic sector whose level of activity remained to be determined. We labeled the new sector "defense production." To represent the nonmilitary production of the two sectors, we retained the original sectors but left their level of activity to be determined. In this way, the level of activity for the nonmilitary portion of these sectors could be adjusted to match the apparent nonmilitary (and military) demand for the nominal (nonmilitary) products of these sectors; and the level of activity for the military production portion of the sectors could be adjusted to match the availability of resources not required by the nonmilitary activities. (The capital investment activity

levels for each of these industries were defined as a fixed ratio to the estimated production level.)

To reflect national defense demand (for both military and nonmilitary products), we introduced a specific final demand sector labeled "national defense," whose level of activity also remained to be determined. This new final demand sector was designed to represent all defense expenditures (as in the U.S. budget) without any distinction between those expenditures that involve "investment" in new military equipment and those that involve "consumption" or operating expenses. By leaving the activity level of this new final demand sector to be determined, it was possible to adjust its level, together with the defense production industry, so as to match as accurately as possible the supply and demand for "military production" while at the same time achieving as accurate a match as possible with regard to the total consumption of each of the other resources in the residual pool.

The resource requirement vectors for the foregoing activities were chosen as follows. The requirement vectors for the nonmilitary portions of the two key sectors were taken directly from the source data described in Section 2.3.5.1 above. To provide a rough estimate of the resource requirements for the new military production activity, we utilized the U.S. resource requirements for "defense production" which were adjusted using the mirror-imaging methodology to reflect the Soviet price structure. Similarly, to provide a rough estimate of the total resource requirements for defense as an element of final demand, we used the U.S. requirements vector for defense expenditures, as adjusted to reflect Soviet pricing practices.

Having defined the defense-related activities, the next step was to determine what levels of activity for this combination of sectors would provide the best explanation of the total residual pool. To understand the basic idea behind this

procedure, one can consider a hypothetical process in which a series of guesses are made concerning the relevant activity levels. Any such guess will imply some total level of consumption for each of the 85 resources in the residual pool. For a poor guess, this level of consumption for most resources is not likely to match very accurately the level of the resource actually available in the pool. For a good guess, one would expect the match for most resources to be much better. Presumably, the best guess should be the one for which the calculated total consumption for all resources matches as accurately as possible the available pool.

The most conventional way of developing such a "best guess" would be to use a method (such as regression analysis) to adjust the activity level for each of the defense-related columns in order to minimize the sum of the squares of the error terms (negative or positive) which represent the unexplained portion of the residual pool. After the activity levels had been adjusted in this way to minimize the error terms, a second and final reconciliation process (such as the row and column multiplication of the RAS methodology) could be applied to adjust row and column totals and thus eliminate the final residual errors.

For the present reconstruction, we concluded that we were likely to obtain more satisfactory results by combining both the calculation of the activity levels and the final row and column reconciliation into a single optimization process; one designed to match the row and column constraints while producing a minimum distortion in the a priori estimates of the resource requirement vectors.

The formal methodology uses a deductive procedure for reconciling uncertain and inconsistent information which is called minimum cross-entropy. The specific cross-entropy methodology which was developed and used for the present reconstruction is described in Appendix D of this report.

Although the concept is based on the formal principle of cross-entropy, the implementation of the principle in this context is very similar to the application of row and column multipliers, as in the RAS methodology (Refs. 6, 7), to reconcile row and column totals.

In a properly structured input-output matrix, the column total for each industrial sector must exactly equal the row total for the resource produced by the industry. This equality arises because the total cost of production is represented in the column total (the column total includes not only the cost of all labor and resources used by the sector, but it also includes the "profit"--revenues in excess of costs--of the industry together with any taxes and subsidies); whereas the row total (which reflects the purchases from the sector by all users of the source) represents the total revenues of the industry.

However, if the entries in the table are in any way imperfect, the row and column totals may not equal. The most obvious way to resolve this problem, while doing minimum damage to the original estimates, is to simply apply row column multipliers. If the production of a resource as shown in the table is larger than the consumption, the apparent consumption can be increased by multiplying all the elements of the row by a factor f which is slightly larger than one. At the same time, the apparent production of the resource can be decreased by dividing the column by approximately the same factor f . The method used to reconcile row and column totals in the present reconstruction was essentially equivalent (with the exception of a very small correction factor) to such a row and column multiplication.

The magnitude of the errors in the row and column totals that remain, and that have to be reconciled by this final process, will of course, depend on the activity levels that are selected for the defense-related activities. Presumably, the more accurately these activities are estimated, the smaller the errors that will remain to be reconciled, and the smaller the changes that will be imposed in the reconciliation process. In the present reconstruction, the activity levels for the defense-related activities were selected in such a way that the required multiplicative factors were as close as possible to 1.0, so that minimum distortion would be required in the final reconciliation. (This, in fact, is the goal of the cross-entropy formalism.)

In the actual reconstruction, the foregoing very simple process was modified, in a way quite similar to the weighted RAS method (Ref. 6, p. 417), to reflect the fact that the degree of confidence in the various estimate is not uniform. For example, we assumed a very high confidence in the data contained in the original Bureau of the Census reconstruction; a medium confidence in the various missing data elements that were estimated from other sources; and a very low confidence in the resource requirement vectors such as those for "military production" and "defense expenditures" which were derived solely from the mirror-imaging methodology. When row and column multipliers were applied to achieve the reconciliation, the required multipliers were raised to higher powers for the less certain estimate. For example, if the nominal row multiplier, f , for the high confidence estimate was .99, the multiplier applied to a medium confidence estimate might be f^3 or .97, and the multiplier for a very low confidence estimate might be f^{10} or .90. In this way, the largest correction factors were applied to the estimates that had the greatest uncertainty.

This approach made it possible to achieve the necessary reconciliation while doing absolutely minimum damage to the high confidence estimates. It also made it possible to select Soviet defense activity levels in a way that took into account the degree of correspondence to U.S. mirror-imaging, defense-related requirements, without allowing the discrepancies between U.S. and Soviet defense requirement vectors to unduly distort the results. In effect, it made it possible to treat the actual Soviet resource requirement vectors as being very firm, while treating the U.S. mirror-image estimates as being very soft and flexible.

3.0 OVERVIEW OF THE ESTIMATED DEFENSE ACTIVITIES

As noted earlier, one of the significant results of the reconstruction is an estimate of the structure of defense-related expenditures in the 1972 Soviet economy. This section provides a brief discussion of the findings of the reconstruction concerning the structure of Soviet defense expenditures.

In keeping with our objective of providing a reconstruction of the Soviet economy that would be as compatible as possible with the U.S. I-O data, we combined defense consumption and investment into a single final demand sector labeled "Defense Expenditures." To provide an initial guess--or starting point--for estimating the direct requirements for this sector, we utilized the direct requirements for the 1967 U.S. defense expenditures, as modified by our mirror-imaging methodology. To provide maximum flexibility to adjust this estimate to match the structure of the Soviet defense program, both the level and structure of defense expenditures were treated as being very flexible.

The direct requirements for the defense sector include a wide variety of inputs from almost all production sectors, but they also include some very specialized products that are clearly military in nature. In developing the correspondence with the U.S. I-O data, we postulated that the majority of this clearly military production would be accomplished in three key sectors.

1. Radio and OMB
2. Transportation M&E
3. Military production

Sectors 1 and 2 above correspond to existing Soviet sectors that are believed to be very heavily engaged in military production. The direct requirements used for these two sectors in the present reconstruction were taken directly from the Census Bureau tables (Ref. 1), and presumably correspond very closely to the official

Soviet data for these sectors. The third sector, "military production," is a hypothetical new sector which was introduced in the present reconstruction to provide a mechanism for capturing defense-related production which, for one reason or another, may have been omitted from the published Soviet I-O data. To provide a starting point for estimating the direct requirements for this sector, we utilized the direct requirements--as modified by our mirror-imaging methodology--for the corresponding 1967 U.S. military production sector. The direct requirements for this hypothetical new Soviet sector, however, were left very flexible so that they could be adjusted to account more accurately for the unexplained final demand.

In developing the final estimate of the defense-related activities, the level of production of each of the above industries, together with the total level of defense expenditures, were adjusted to provide as accurate a fit as possible to the available resources that were left over after the non-military resource requirements had been identified. Table 3-1 which follows shows the results of this final estimation process.

It is important not to be too literal in interpreting these results. Obviously, one cannot conclude that there exists a specific sector labeled "Military Production." Similarly, one cannot conclude that the production of the Soviet "Transportation M&E" sector was almost 4,000 million rubles higher than the nominal level. What the results seem to indicate, however, is that the production of some kind of product, with resource requirements similar to Transportation M&E, was substantially higher than the nominal production of that sector. The analysis also suggests that the total production of products with a resource requirement like that shown for "Radio & OMB" may have been less than was shown in the Census Bureau reconstruction. Finally, it suggests that there was substantial production of some mix of products with resource requirements analogous to U.S.

TABLE 3-1
 ADJUSTED 1972 OUTPUT OF DEFENSE-RELATED SOVIET SECTORS
 Producers' Prices (Millions of Rubles)

	Nominal <u>Output</u>	Adjusted <u>Output</u>
Transportation M&E	5,038	9,007
Radio & Other MB	33,903	28,327
Military Production	<u>none</u>	<u>15,459</u>
Total	38,941	52,793

military production. Altogether, it rather strongly indicates a substantial production of military-like products, in excess of the total that appears in the published Soviet I-O data.

Of course, not all of the output of the above sectors is connected with defense activity. Portions of the output of "Radio and Other MB" and "Transportation M&E" are utilized in non-military applications. Table 3-2 which follows shows an analysis of the way the output of these sectors is utilized.

Although there is some significant consumption of these sectors for non-defense-related purposes, the analysis suggests quite strongly that the majority of the production of these three sectors (as adjusted in our analysis) is used either directly or indirectly for defense applications.

Table 3-3 summarizes the total adjusted inputs to the defense-related portion of final demand.

In general, we believe that the results of the reconstruction are quite compatible with existing estimates of Soviet defense activity, and should provide a quite satisfactory basis for analyzing economic effects within the Soviet economy. No attempt was made in the present effort to develop a more detailed representation of the Soviet defense activity in terms of specific types of weapons programs. However, the methodology seems to have worked well enough that, in conjunction with more traditional analysis methods, it might make a very useful contribution to a more detailed analysis of Soviet defense expenditures.

Appendix E contains a printout of the expanded 1972 Soviet input-output tables which resulted from the application of our reconstruction process.

TABLE 3-2

UTILIZATION OF ADJUSTED OUTPUT OF DEFENSE-RELATED INDUSTRIES
Producers' Prices (Millions of Rubles)

<u>CONSUMING ACTIVITIES</u>	<u>PRODUCING SECTORS</u>		
	<u>TRANS M&E</u>	<u>RADIO & OMB</u>	<u>MILITARY PRODUCTION</u>
Defense	5,007	9,330	11,804
Mil. Prod.	1,325	1,517	1,026
Trans. M&E	637	985	---
Radio & OMB	---	7,333	---
Foreign Trade	177	199	1,762
Other Use	<u>1,861</u>	<u>9,948</u>	<u>867</u>
Total Output	9,007	29,312	15,459

TABLE 3-3
COMPOSITION OF DEFENSE-RELATED FINAL DEMAND
Producers' Prices (Millions of Rubles)

Transportation M&E	5,006
Radio and Other MB	9,330
Construction	4,596
Trans. & Comm	3,005
Military Production	11,805
Other Resources	16,212
Personnel	<u>7,700</u>
Total	57,654

4.0 PROJECTION OF THE SOVIET INPUT-OUTPUT TABLES TO 1980

4.1 THE REQUIREMENT

The reconstruction exercise, as described in the preceding sections of this report, produced an expanded version of the 1972 Soviet input-output data. For many policy studies, however, it is necessary to have a more up-to-date representation of the Soviet economy. The Soviet economy has grown significantly during the last nine or ten years, and there also have been some important structural changes in the pattern of foreign trade and in the allocation of resources within the economy.

The present extrapolation of the 1972 input-output tables to 1980 is intended to meet the need for an approximate updated data base that can reflect such major changes in the Soviet economy. It is obviously not a substitute for a real updating of the data base, such as could be accomplished using more recent Soviet data. Although most of the Soviet economic data required for a reconstruction of the 1977 Soviet I-O tables are now available (and such a reconstruction is currently being considered within the Department of Commerce), the completion of an accurate update of the Soviet data will probably require several years.

Meanwhile, pending the availability of a more up-to-date set of Soviet I-O tables, the only practical course of action is to adjust the basic 1972 I-O data to reflect the major changes that have taken place within the Soviet economy since that date. Although such adjustments to the 1972 Soviet I-O tables lack the precision that could be provided by a more recent set of I-O tables, they can nevertheless provide an approximate data base that can be useful in policy studies. Thus, our objective in extrapolating the Soviet I-O data to the 1980 time period is simply to provide as good a "current" surrogate data base as

possible within the time and funding constraints of this contract.

4.2 EXTENT AND SCOPE OF THE UPDATE

The adjustments that are required to update an I-O table to a more recent year can be divided into two broad categories: (1) the general changes in activity levels that are required to reflect the growth and evolution of an economy over a period of time; and (2) the changes in prices and detailed technological requirements, (i.e., the amount of each physical resource that is used to produce one unit of each product). The present extrapolation effort was limited to the first of these two types of adjustments; the adjustments were made as required to provide a good fit to the unclassified CIA estimates for the growth of various Soviet economic sectors, including defense-related activities from the 1970s through about 1980. Adjustments of the second kind were made only to the extent that they were required to achieve a balance between the production and consumption of each resource in the updated economic tables.

In developing a set of "current" and useful Soviet economic statistics, one is limited by the fact that the published economic data typically are not available until one or two years after the fact. As of November 1981, for example, unclassified CIA data on the Soviet economy focused upon the 1980 time period, with some data being no more current than 1979. For this reason, no effort was made to update the tables beyond the 1980 time period. As a consequence, the updated tables reflect the Soviet economy as it existed prior to the 1982 price reform.

It is important to note that there were significant--and apparently across-the-board--increases in internal Soviet prices, effective 1 January 1982. Unfortunately, the data necessary for estimating the effects of these price changes is not expected to be available until late in 1983. Thus, pending the availability

of such data, we are limited to an examination of Soviet economic activities in terms of pre-1982 price structures.

4.3 THE UPDATING METHODOLOGY

It is important to emphasize that our projection of the Soviet economy to 1980 does not represent an independent estimate of the rate of growth of Soviet defense expenditures. Although the methods we used to reconstruct the 1972 Soviet defense expenditures could in principle have been applied within the 1980 extrapolation (thus providing independent estimate of the growth of defense activities) the available resources under the contract were not sufficient to permit such an analysis. As a consequence, the present projection of Soviet 1980 defense activities simply reflects the unclassified CIA estimate of about a 4% per year rate of growth.

Fundamentally, the updating methodology involves the adjustment of the I-O tables to match the available estimates of the changes in various types of economic activity in the period from 1972 to 1980. The resulting estimates of economic activity levels in 1980 are then used as "control totals," and the activity levels in the 1972 tables are adjusted (using a modified RAS methodology as described in Appendix D) to match these control totals. Specifically, the updating methodology involved the use of available estimates of 1980 Soviet production, investment, labor force, consumption, and foreign trade in individual sectors to change row and column composition and totals as appropriate. In some cases, where the required data were available only in an aggregated form, a single growth factor was used for a group of industries. In a few cases, where the required information was not available at all, estimates had to be made judgmentally by analogy to similar activities for which data were available.

Finally, the 1980 projected I-O tables that were generated in this way were checked against independent "control" totals;

e.g., unclassified CIA estimates of Soviet GNP growth, productivity changes, etc. In terms of Soviet GNP, for example, the CIA estimate shows a growth of approximately 27% from the end of 1972 through the end of 1980. After completing the initial updating process, our detailed I-O tables showed an increase for the same period of 26+%. The following sections provide a more detailed discussion of the specific information of each type that was used in the updating process.

4.3.1 Production

There is a wealth of data available on Soviet production of many kinds of machinery and goods--and certain "productive" services. Nearly all of these data are expressed in terms of units--pieces, square meters, weight, ton-kilometers, etc.--thereby making comparisons across periods of time much easier than if one must deal with "equivalent dollar values." The updating process involved normalizing available data on Soviet production to 1972 and changing the 1972 Soviet I-O table row and column composition and totals accordingly. For example, Soviet production of construction materials had increased some 76% by the end of 1980, and this percentage increase was reflected in the updated I-O tables.

The principal source of data used in updating the production quadrant was a series of unclassified CIA publications entitled Handbook of Economic Statistics: A Research Aid. CIA estimates of production changes from 1972 to 1980 for specific items or categories of items were matched as closely as possible to the I-O table sectors. In the machine-building and metal-working aggregation, for example, electric generators and turbines were used to update production in the Energy and Power Machinery and Equipment sector; metalcutting and metalforming machine tools were used as a surrogate for the Machine Tool sector, passenger automobiles for the Automobile sector, trucks, buses and railroad freight cars for the Transportation Machinery

and Equipment sector, and tractors and grain combines for the Agricultural Machinery and Equipment Sector.

Production-level changes for the I-O table Machine-Building and Metal-Working (MB and MW) subsectors which could not be directly matched to CIA estimates were calculated as an average residual after disaggregated sector matchups had been completed. That is, increased production for the "total machinery" category--in percentage terms--was applied to the ruble value of the MB and MW aggregated sector to arrive at an approximate value (in 1972 rubles) for total MB and MW production in 1980. Then the individually matched subsector totals (e.g., for automobiles) were removed from both the 1972 and 1980 totals, and an average percentage increase for the remaining unmatched sectors in toto was calculated. This average factor was then applied to each of the unmatched subsectors within MB and MW.

This averaging technique for determining approximate production-level changes for unmatchable I-O table sectors was used throughout the updating process, as appropriate. In the chemical aggregation, for example, plastics, synthetic fibers, and synthetic rubber could be matched to specific CIA estimates, while the remainder of the chemical subsectors could not. Thus, the average residual production level change was applied to each of the unmatchable chemical subsectors. Similarly, in the food aggregation, fish, meat, dairy and sugar production level changes were calculated individually and removed from the totals used to calculate average "processed food" production level changes, etc.

For certain sectors--specifically, Repair, Industry n.e.c., Other Branches, Private Transportation and Communications, and Construction--the average production level change for "total industry" was used. For Agriculture, the CIA-developed agricultural production index was used, while the change in "production" of the Transportation and Communications

(Productive) sector was calculated on the basis of the change in total ton-kilometers of freight movement including rail, motor vehicle, inland waterway, ocean, air and pipeline.

At the conclusion of this updating process for the production quadrant, the resulting production increase for the U.S.S.R. (from the end of 1972 to the end of 1980) was 41.9%.

What an updating methodology such as this fails to capture, of course, are qualitative changes (e.g., technological improvements) in machinery and goods. This shortcoming is essentially irrelevant for some sectors, such as Electricity--where one can assume that a 1972 kilowatt is the same as a 1980 kilowatt. In other sectors, however, the problem can be more troublesome. For example, one would assume that a 1980 tractor is qualitatively better than a 1972 tractor, and that this improved quality should be reflected in an added "value" for the newer tractor. Although we have not yet had the opportunity to examine this situation in depth, it appears that the rather small difference in our economic model GNP projection and the CIA estimate may be at least partially attributable to this failure to completely represent the effects of such qualitative improvements.

4.3.2 Investment

The same methodology was used to update the investment matrix, although the comparisons in this quadrant were based upon estimates of rubles rather than "pieces." CIA estimates of Soviet gross fixed capital investment are rather highly aggregated in our data sources, and it was not practical to attempt to differentiate among changes in investment levels among various subsectors within, for example, the Machine-Building and Metal-Working sector. Thus, the average investment level change

for MB and MW was applied to each of the subsectors within that sector.

Further, the only figure available for 1980 was the total investment estimate, which we disaggregated in accordance with the distribution of investment by sector in 1979. During the eight-year period examined, the most noticeable changes in investment patterns were the significant increases in gross fixed capital investment in the Transport/Communications and Chemical sectors, while the lowest rates of increase were in investment in the Construction Material, Consumer Goods, and Housing sectors.

4.3.3 The Labor Force

Labor force data for the Soviet Union were obtained from the Department of Commerce, based upon research completed and estimates prepared by Stephen Rapawy. The Soviet labor force grew approximately 12.5% during the 1973-1980 period, with a decrease in the agricultural labor force and increases in both the industrial and "other" labor forces. There are rather strong indications that the overall quality of the Soviet labor force is either deteriorating or becoming stagnant, in terms of productivity. One likely cause of this situation is the fact that, during the eight-year period, the non-Slavic Soviet population grew at almost exactly the same rate as did the overall labor force, while the Slavic population growth rate was only about one-third the Soviet labor force growth rate. The hypothesis, of course, is that the less well-educated, less motivated non-Slavs are also less productive workers.

The percentage changes in the Soviet labor force composition reflected in the Department of Commerce estimates were incorporated in the updating process.

4.3.4 Foreign Trade

As stated by Trembl and Kostinsky, "An understanding of the role played by foreign trade in the economy of a country and of the relationship between export-import flows and national income accounts is, clearly, one of the most important elements of economic analysis." Estimating the importance of foreign trade to the Soviet Union is complicated by the Soviet practice of establishing different prices for similar goods traded within and outside the country--the "external vs. internal ruble" problem. While the Soviets attempt to "insulate" their internal price structures from the influence of world market price changes, these attempts are not completely successful. Further, the degree to which internal prices change as a result of external influences, and the relationships between external and internal rubles, vary between economic sectors.

Trembl et al. have developed coefficients for approximately converting 1972 external rubles--for both exports and imports--into internal rubles. Since 1972, however, there have been significant changes in world market prices, most topically in the prices of crude oil, while during the same period of time Soviet internal price structures apparently have remained essentially unchanged. For example, the external ruble value of Soviet crude oil and petroleum products increased from 13% of total Soviet exports in 1972 to 36+% of total Soviet exports in 1980. Thus, the huge increase in crude oil prices constituted a most fortuitous windfall for the Soviets. For the 1972 I-O tables, the coefficient developed by Trembl et al. for converting external rubles (crude oil exports) into internal rubles is 1.036. Based upon 1980 crude oil prices in the world market, the 1980 conversion ratio would be on the order of .241.

The ability to convert 1980 export and import (external) rubles into internal rubles is very important in representing the importance of foreign trade to the Soviet economy. Thus, we

obtained from the Department of Commerce the official Soviet Ministry of Foreign Trade statistics for 1980 exports and imports. These statistics include pricing data for less than 20% of total Soviet exports and for about 30% of total Soviet imports. By applying world oil prices to Soviet oil exports, one can develop approximate price data for another 36% of total Soviet exports.

Using the simplifying assumption that the Soviet internal price structure did not change during the 1972-1980 period, we first converted 1980 external rubles to 1972 external rubles, then appropriately adjusted the 1972 external/internal ruble coefficients (for sectors for which pricing data were available) to reflect changes in world market prices. In those sectors for which no pricing data were available, we used average coefficients developed for "similar" products. For Soviet exports in the Aggregated Textiles and Wearing Apparel sector, for example, the overall external/internal ruble conversion coefficient for 1972 was 2.945. The average derived coefficient for 1980, based upon available pricing data, was 2.596, and this average coefficient for 1972 was 2.945. The average derived coefficient for 1980, based upon available pricing data, was 2.956, and this average coefficient was applied to specific disaggregated sectors (such as Knitwear) for which pricing data was not available.

This simplified methodology for updating the 1972 external/internal ruble conversion coefficients is not intended to be more than an interim substitute for the more precise update which could, with a proper level of effort, be completed by such experts as Trembl and Kostinsky. Our approach, for example, does not adequately represent product changes. As an illustration, it is clear that a Soviet-made aircraft exported in 1980 was an entirely different aircraft than one exported in 1972, and that we can have less confidence in external/internal ruble

coefficients which are based upon unit prices for different aircraft.

While we recognized the shortcomings of our methodology for updating Soviet foreign trade activities and resulting external/internal ruble coefficients, we believe that these updated coefficients are more accurate in representing the importance of Soviet foreign trade in 1980 than would be an across-the-board application of the 1972 coefficients.

4.4 RESULTS OF THE UPDATING PROCESS

The completed updating process results in a reasonably current reconstructed Soviet economic data base, in I-O format, which appears to be adequate for use in many policy level analyses that focus upon significant changes in Soviet economic policies or conditions--for example, changes in crude oil prices, investment priorities, military expenditure levels, crop yields, etc. Figures 4-1 through 4-6 illustrate some of the principal changes (from 1972 to 1980) in the Soviet economy which have been captured in the updating process.

4.4.1 Production

Figure 3-1 illustrates, in rather highly aggregated sectors, some of the principal changes in Soviet production volume during the eight-year period. Production increased most noticeably, for example, in three sectors normally associated with heavy industry--Machinery, Chemicals, and Electricity--while the consumer Soft Goods sector showed one of the lowest rates of increase.

Within the very important Machine-Building and Metal-Working sector (Figure 4-2), it is interesting to note that production in nearly all subsectors for which data are available--trucks and buses, generators and turbines, etc.--increased at a much lower rate than did machinery in toto. The implication, of course, is that Soviet military equipment

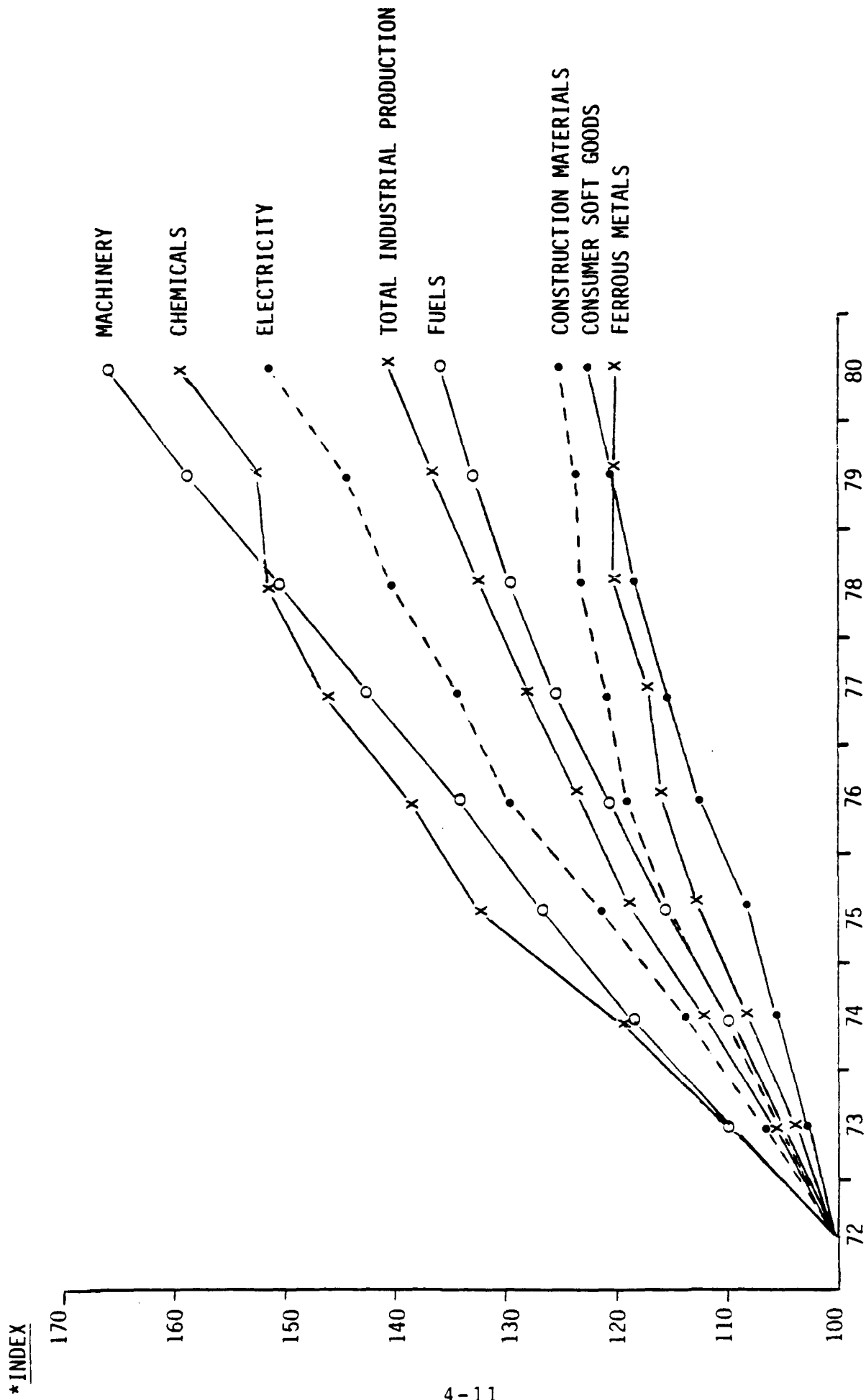


Figure 4-1 . Soviet Industrial Production--Selected Aggregated Sectors
 * (Normalized to 1972)

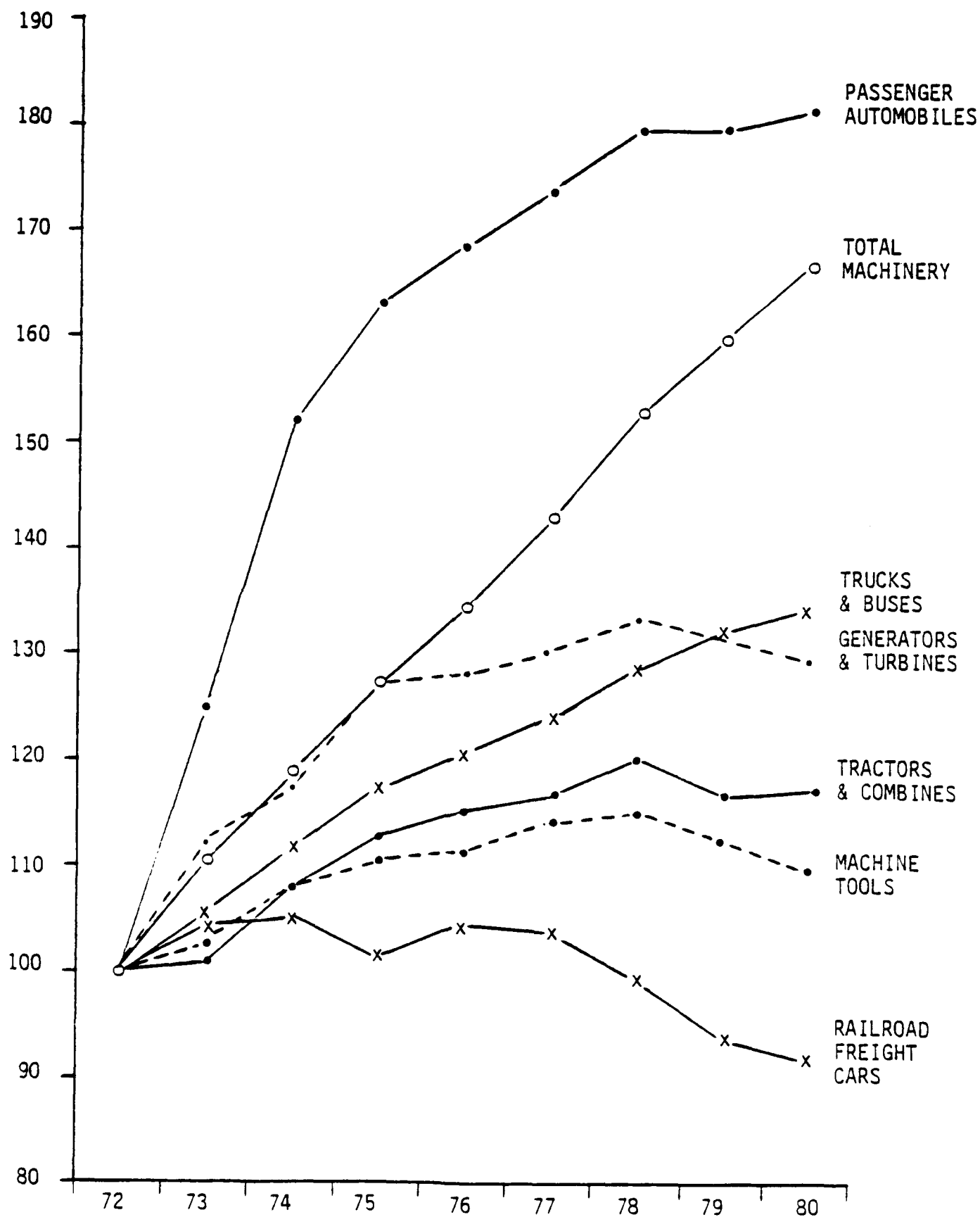


Figure 4-2. Soviet Production--Selected MB & MW Sectors

*(Normalized to 1972)

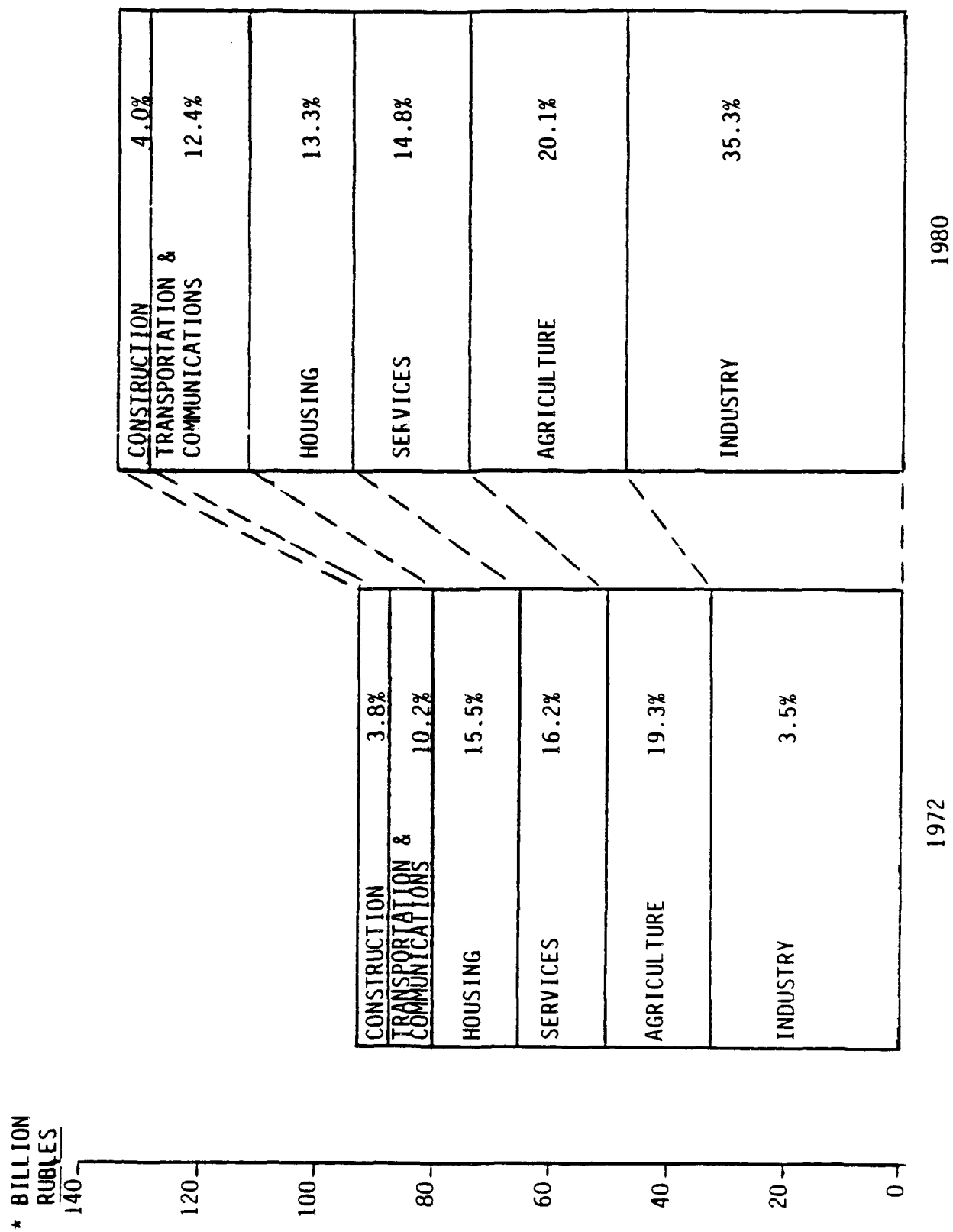


Figure 4-3. Soviet Gross Fixed Capital Investment

*BILLION
RUBLES



OTHER	14.8%
CONSTRUCTION MATERIALS	6.0%
FERROUS METALS	7.2%
CHEMICALS	8.3
CONSUMER GOODS	14.3%
MACHINE-BUILDING & METAL-WORKING	21.1%
FUELS & POWER	28.3%

1972

OTHER	14.9%
CONSTRUCTION MATERIALS	4.2%
FERROUS METALS	7.0%
CHEMICALS	9.7%
CONSUMER GOODS	9.6%
MACHINE-BUILDING & METAL-WORKING	24.0%
FUELS & POWER	30.6%

1980

Figure 4-4. Soviet Gross Fixed Capital Investment: Industrial Sector
* (Constant rubles)

BILLION
RUBLES

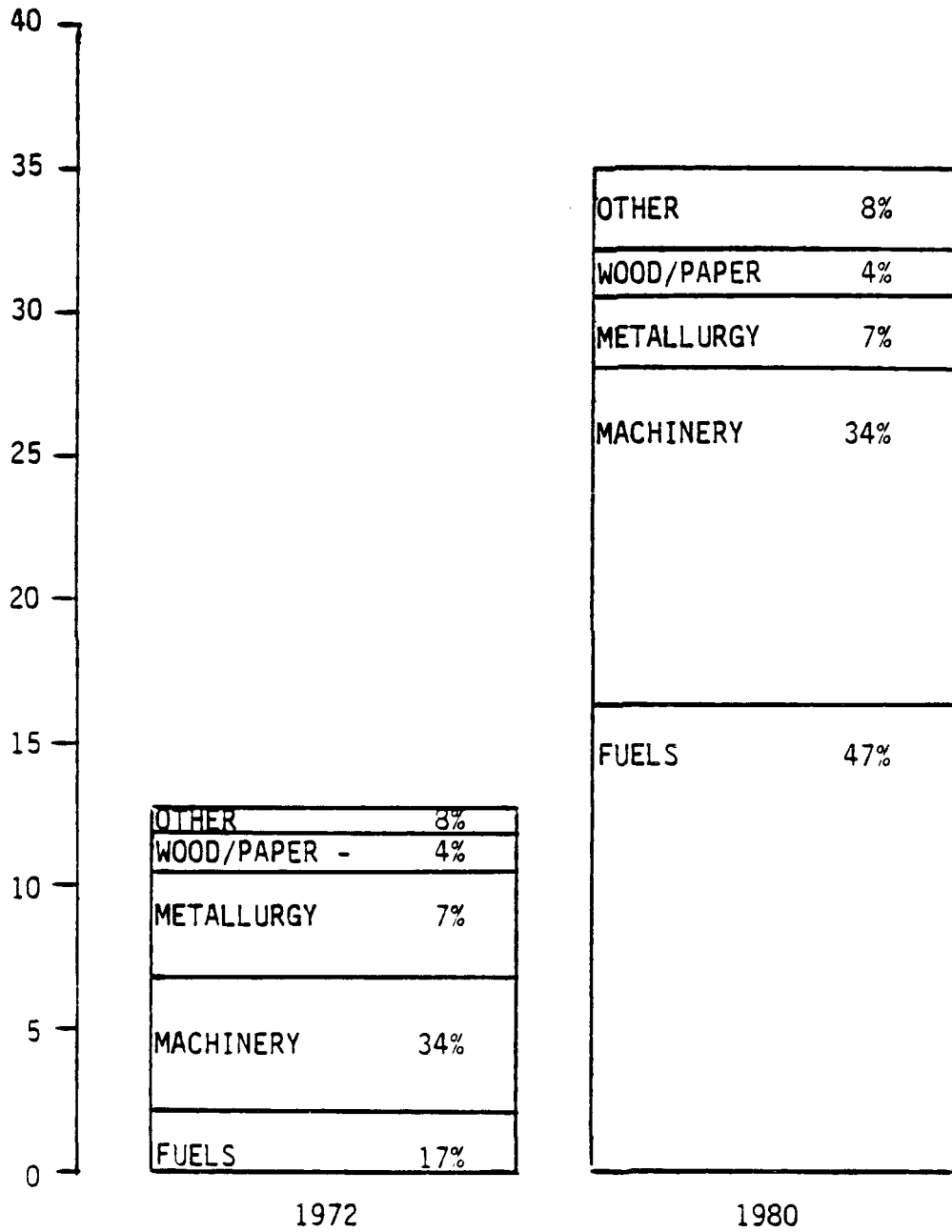


Figure 4-5. Soviet Exports (1972 External Rubles)

BILLION
RUBLES

40

35

30

25

20

15

10

5

0

OTHER	8%
CHEMICALS	8%
METALLURGY	9%
TEXTILES/ WEARING APPAREL	16%
AGRICULTURE & FOOD PRODUCTS	20%
MACHINERY	39%

1972

OTHER	4%
CHEMICALS	9%
METALLURGY	7%
TEXTILES/ WEARING APPAREL	10%
AGRICULTURE & FOOD PRODUCTS	25%
MACHINERY	45%

1980

Figure 4-6. Soviet Imports (1972 External Rubles)

production--much of which is presumed to be hidden in the MB and MW sector--increased at a very high rate during the eight-year period. The volume of passenger automobile production in itself is clearly insufficient to account for the rate of increase in total machinery production.

4.4.2 Investment

Figure 4-3 shows changes, in both absolute and relative terms, in Soviet gross fixed capital investment from 1972 to 1980. While investment in all the aggregated sectors displayed increased in absolute terms, both the Transportation/Communications and the Agriculture sectors increase: (1) a significant increase in total investment levels; (2) a decrease in the level of consumption in general, and private consumption in particular; or (3) from a significant shift in recent investment patterns. If such a shift occurs, it is clear that the Industrial sector will not suffer, but that the Housing and Services sectors probably will.

Within the Industrial sector (Figure 4-4), the 1980 investment pattern shows continued emphasis on heavy industry (e.g., fuels and power, machine-building and metal-working, and chemicals), primarily at the expense of the consumer goods sector.

4.4.3 Foreign Trade

Figure 4-5 illustrates changes during the eight-year period in Soviet exports, with the emergence of fuels--and principally oil--as the dominant factor. However, the Machinery sector also increased dramatically, in absolute terms, led by exports of machinery and equipment in the transportation, mining/metals, automobile, and agricultural subsectors.

In terms of imports (Figure 4-6), machinery and agriculture/food products dominate, with principal machinery imports being in the transportation, "radio and other

machine-building", pumps/chemical equipment, and machine tools/forging and pressing equipment sub-sectors.

Appendix F contains a printout of the Soviet input-output tables reflecting both the reconstruction/expansion process and the application of our updating methodology.

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APPENDIX A

DEFINITION OF SECTORS

APPENDIX A

DEFINITION OF SECTORS

The United States 1967 Input-Output tables used in this study consisted of 468 industries grouped into 86 primary sectors (Table A - I). The Soviet data were listed in terms of 88 industrial sectors. To provide a correspondence between the two economies, a new set of 88 DSA sectors was defined so as to maximize the correspondence between the U.S. and Soviet sectors. Table A - II shows this correspondence. No Soviet sector is split between the DSA sectors. However, some DSA sectors, such as 59 - Textiles, contain more than one Soviet sector. All 88 Soviet sectors are contained in the first 81 DSA sectors. The remaining seven DSA sectors contain industries originally defined only for the U.S. The DSA sectors 82, 83, 84, and 88 were created for the Soviet economy during the course of the reconstruction.

Table A - III shows the correspondence between the U.S. sectors and the new DSA sectors. Note that in this table the last U.S. sector listed is 78. This is because, prior to the correspondence, U.S. industries 79, 84, and 85 were aggregated into 78; industries 81, 82, and 83 were put into industry 69.01; industry 80 (foreign trade) was considered as a separate quadrant; and industry 86 (household industry) was deleted (this industry consumed only labor and was consumed only by the personal consumption activity). Where a U.S. sector is listed in more than one DSA sector, it was split according to the Soviet activity levels of the DSA sectors involved.

Table A - I

SURVEY OF CURRENT BUSINESS

Industry Classification of the 1967 Input-Output Tables

The titles in bold face represent the groupings of industries used for the summary version of the 1967 tables and were also used in the 1958 and 1963 input-output tables prepared by the Bureau of Economic Analysis.

Industry number and title
AGRICULTURE, FORESTRY, AND FISHERIES
1 Livestock and livestock products Dairy farm products..... Poultry and eggs..... Meat animals and miscellaneous livestock products.
2 Other agricultural products Cotton..... Food feed grains and grass seeds..... Tobacco..... Fruits and tree nuts..... Vegetables, sugar, and miscellaneous crops. Oil bearing crops..... Forest, greenhouse, and nursery products.
3 Forestry and fishery products Forestry and fishery products.....
4 Agricultural, forestry, and fishery services Agricultural, forestry, and fishery services.
MINING
5 Iron and ferroalloy ores mining Iron and ferroalloy ores mining.....
6 Nonferrous metal ores mining Copper ore mining..... Nonferrous metal ores mining, ex- cept copper.
7 Coal mining Coal mining.....
8 Crude petroleum and natural gas Crude petroleum and natural gas.....
9 Stone and clay mining and quarrying Stone and clay mining and quarrying.
10 Chemicals and fertilizer mineral mining Chemical and fertilizer mineral mining.

Industry number and title
CONSTRUCTION
11 New construction New construction, residential build- ings (nonfarm). New construction, nonresidential buildings. New construction, public utilities... New construction, highways..... New construction, all other.....
12 Maintenance and repair construction Maintenance and repair construc- tion, residential buildings (non- farm). Maintenance and repair construc- tion, all other.
MANUFACTURING
13 Ordnance and accessories Complete guided missiles..... Ammunition, except for small arms, n.e.c. Tanks and tank components..... Sighting and fire control equipment..... Small arms..... Small arms ammunition..... Other ordnance and accessories.....
14 Food and kindred products Meat products..... Creamery butter..... Cheese, natural and processed..... Condensed and evaporated milk..... Ice cream and frozen desserts..... Fluid milk..... Canned and cured sea foods..... Canned specialties..... Canned fruits and vegetables..... Dehydrated food products..... Pickles, sauces, and salad dressings..... Fresh or frozen packaged fish..... Frozen fruits and vegetables..... Flour and cereal preparations..... Prepared feeds for animals and fowls..... Rice milling..... Wet corn milling..... Bakery products.....

Table A - I (cont'd)

Industry number and title	Industry number and title
Sugar..... Confectionery and related products..... Alcoholic beverages..... Bottled and canned soft drinks..... Flavoring extracts and sirups, n.e.c..... Cottonseed oil mills..... Soybean oil mills..... Vegetable oil mills, n.e.c..... Animal and marine fats and oils..... Roasted coffee..... Shortening and cooking oils..... Manufactured ice..... Macaroni and spaghetti..... Food preparations, n.e.c.....	22 Household furniture Wood household furniture..... Upholstered household furniture..... Metal household furniture..... Mattresses and bedsprings.....
15 Tobacco manufactures Cigarettes, cigars, etc..... Tobacco stemming and redrying..... 16 Broad and narrow fabrics, yarn and thread mills Broadwoven fabric mills and fabric finishing plants..... Narrow fabric mills..... Yarn mills and finishing of textiles, n.e.c..... Thread mills.....	23 Other furniture and fixtures Wood office furniture..... Metal office furniture..... Public building furniture..... Wood partitions and fixtures..... Metal partitions and fixtures..... Venetian blinds and shades..... Furniture and fixtures, n.e.c.....
17 Miscellaneous textile goods and floor coverings Floor coverings..... Felt goods, n.e.c..... Lace goods..... Paddings and upholstery fillings..... Processed textile waste..... Coated fabrics, not rubberized..... Tire cord and fabric..... Scouring and combing plants..... Cordage and twine..... Textile goods, n.e.c.....	24 Paper and allied products except containers and boxes Pulp mills..... Paper mills, except building paper..... Paperboard mills..... Envelopes..... Sanitary paper products..... Wallpaper and building paper and board mills..... Converted paper, products, n.e.c., except containers and boxes.....
18 Apparel Hosiery..... Knit apparel mills..... Knit fabric mills..... Apparel made from purchased materials.....	25 Paperboard containers and boxes Paperboard containers and boxes.....
19 Miscellaneous fabricated textile products. Curtains and draperies..... Housefurnishings, n.e.c..... Fabricated textile products, n.e.c.....	26 Printing and publishing Newspapers..... Periodicals..... Book printing and publishing..... Miscellaneous publishing..... Commercial printing..... Manifold business forms, blank-books, and binders..... Greeting card publishing..... Miscellaneous printing services.....
20 Lumber and wood products, except containers Logging camps and logging contractors..... Sawmills and planing mills, general..... Hardwood dimensions and flooring..... Special product sawmills, n.e.c..... Millwork..... Veneer and plywood..... Prefabricated wood structures..... Wood preserving..... Wood products, n.e.c.....	27 Chemicals and selected chemical products Industrial inorganic and organic chemicals..... Fertilizers..... Agricultural chemicals, n.e.c..... Miscellaneous chemical products.....
21 Wooden containers Wooden containers.....	28 Plastics and synthetic materials Plastics materials and resins..... Synthetic rubber..... Cellulosic man-made fibers..... Organic fibers, noncellulosic.....
	29 Drugs, cleaning and toilet preparations Drugs..... Cleaning preparations..... Toilet preparations.....
	30 Paints and allied products Paints and allied products.....

Table A - I (cont'd)

Industry number and title	Industry number and title
31 Petroleum refining and related industries Petroleum refining and related products. Paving mixtures and blocks. Asphalt felts and coatings.	39 Metal containers Metal cans. Metal barrels, drums, and pails.
32 Rubber and miscellaneous plastics products Tires and inner tubes. Rubber footwear. Reclaimed rubber and miscellaneous rubber products, n.e.c. Miscellaneous plastics products.	40 Heating, plumbing, and fabricated structural metal products Metal sanitary ware. Plumbing fittings and brass goods. Heating equipment, except electric. Fabricated structural steel. Metal doors sash and trim. Fabricated plate work (boiler shops). Sheet metal work. Architectural metal work. Miscellaneous metal work.
33 Leather tanning and industrial leather products Leather tanning and industrial leather products.	41 Screw machine products, bolts, nuts, etc. and metal stampings Screw machine products and bolts, nuts, rivets, and washers. Metal stampings.
34 Footwear and other leather products Footwear cut stock. Footwear except rubber. Other leather products.	42 Other fabricated metal products Cutlery. Hand and edge tools including saws. Hardware, n.e.c. Coating, engraving, and allied services. Miscellaneous fabricated wire products. Safes and vaults. Steel springs. Pipe, valves, and pipe fittings. Collapsible tubes. Metal foil and leaf. Fabricated metal products, n.e.c.
35 Glass and glass products Glass and glass products except containers. Glass containers.	43 Engines and turbines Steam engines and turbines. Internal combustion engines, n.e.c.
36 Stone and clay products Cement, hydraulic. Brick and structural clay tile. Ceramic wall and floor tile. Clay refractories. Structural clay products, n.e.c. Vitreous plumbing fixtures. Food utensils, pottery. Porcelain electrical supplies. Pottery products, n.e.c. Concrete block and brick. Concrete products, n.e.c. Ready-mixed concrete. Lime. Gypsum products. Cut stone and stone products. Abrasive products. Asbestos products. Gaskets and insulations. Minerals, ground or treated. Mineral wool. Nonclay refractories. Nonmetallic mineral products, n.e.c.	44 Farm machinery Farm machinery.
37 Primary iron and steel manufacturing Blast furnaces and basic steel products. Iron and steel foundries. Iron and steel forgings. Primary metal products, n.e.c.	45 Construction, mining, oil field machinery equipment Construction machinery. Mining machinery. Oil field machinery.
38 Primary nonferrous metals manufacturing Primary copper. Primary lead. Primary zinc. Primary aluminum. Primary nonferrous metals, n.e.c. Secondary nonferrous metals. Copper rolling and drawing. Aluminum rolling and drawing. Nonferrous rolling and drawing, n.e.c. Nonferrous wire drawing and insulating. Aluminum castings. Brass, bronze, and copper castings. Nonferrous castings, n.e.c. Nonferrous forgings.	46 Materials handling machinery and equipment Elevators and moving stairways. Conveyors and conveying equipment. Hoists, cranes, and monorails. Industrial trucks and tractors.
	47 Metalworking machinery and equipment Machine tools, metal cutting types. Machine tools, metal forming types. Special dies and tools and machine tool accessories. Metalworking machinery, n.e.c.

Table A - I (cont'd)

Industry number and title	Industry number and title
48 Special industry machinery and equipment Food products machinery..... Textile machinery..... Woodworking machinery..... Paper industries machinery..... Printing trades machinery..... Special industry machinery, n.e.c.....	57 Electronic components and accessories Electron tubes..... Semiconductors..... Electronic components, n.e.c.....
49 General industrial machinery and equipment Pumps and compressors..... Ball and roller bearings..... Blowers and fans..... Industrial patterns..... Power transmission equipment..... Industrial furnaces and ovens..... General industrial machinery, n.e.c.....	58 Miscellaneous electrical machinery, equipment and supplies Storage batteries..... Primary batteries, wet and dry..... X-ray apparatus and tubes..... Engine electrical equipment..... Electrical equipment, n.e.c.....
50 Machine shop products Machine shop products.....	59 Motor vehicles and equipment Truck and bus bodies..... Truck trailers..... Motor vehicles and parts.....
51 Office, computing, and accounting machines Computing and related machines..... Typewriters..... Scales and balances..... Office machines, n.e.c.....	60 Aircraft and parts Aircraft..... Aircraft engines and parts..... Aircraft propellers and parts..... Aircraft equipment, n.e.c.....
52 Service industry machines Automatic merchandising machines..... Commercial laundry equipment..... Refrigeration machinery..... Measuring and dispensing pumps..... Service industry machines, n.e.c.....	61 Other transportation equipment Shipbuilding and repairing..... Boatbuilding and repairing..... Locomotives and parts..... Railroad and street cars..... Motorcycles, bicycles and parts..... Trailer coaches..... Transportation equipment, n.e.c.....
53 Electric transmission and distribution equipment and electrical industrial apparatus Electric measuring instruments..... Transformers..... Switchgear and switchboard apparatus..... Motors and generators..... Industrial controls..... Welding apparatus..... Carbon and graphite products..... Electrical industrial apparatus, n.e.c.....	62 Professional, scientific and controlling instruments, and supplies Engineering and scientific instruments..... Mechanical measuring devices..... Automatic temperature controls..... Surgical and medical instruments..... Surgical appliances and supplies..... Dental equipment and supplies..... Watches, clocks and parts.....
54 Household appliances Household cooking equipment..... Household refrigerators and freezers..... Household laundry equipment..... Electric housewares and fans..... Household vacuum cleaners..... Sewing machines..... Household appliances, n.e.c.....	63 Optical, ophthalmic and photographic equipment and supplies Optical instruments and lenses..... Ophthalmic goods..... Photographic equipment and supplies.....
55 Electric lighting and wiring equipment Electric lamps..... Lighting fixtures..... Wiring devices.....	64 Miscellaneous manufacturing Jewelry, including costume, and silverware..... Musical instruments and parts..... Games, toys, etc..... Sporting and athletic goods, n.e.c..... Pens, pencils, etc..... Artificial flowers..... Buttons, needles, pins and fasteners..... Brooms and brushes..... Hard surface floor covering..... Morticians goods..... Signs and advertising displays..... Miscellaneous manufactures, n.e.c.....
56 Radio, television and communication equipment Radio and television receiving sets..... Phonograph records..... Telephone and telegraph apparatus..... Radio and television communication equipment.....	

Table A - I (cont'd)

Industry number and title	Industry number and title
TRANSPORTATION, COMMUNICATION, ELECTRIC, GAS, AND SANITARY SERVICES	
65 Transportation and warehousing	74 Research and development
Railroads and related services.....	Eliminated as a separate industry in the 1963 study. Research and development performed for sale is distributed to the purchaser by each of the industries performing the research and development.
Local, suburban and interurban highway passenger transportation.	75 Automobile repair and services
Motor freight transportation and warehousing.	Automobile repair and services.....
Water transportation.....	76 Amusements
Air transportation.....	Motion pictures.....
Pipe line transportation.....	Amusement and services.....
Transportation services.....	77 Medical, educational services, and nonprofit organizations
66 Communications, except radio and television broadcasting	Doctors and dentists.....
Communications, except radio and television.	Hospitals.....
67 Radio and television broadcasting	Other medical and health services.....
Radio and television broadcasting...	Educational services.....
68 Electric, gas, water and sanitary services	Nonprofit organizations.....
Electric utilities.....	
Gas utilities.....	GOVERNMENT ENTERPRISES
Water and sanitary services.....	78 Federal Government enterprises
	Post Office.....
WHOLESALE AND RETAIL TRADE	Federal electric utilities.....
69 Wholesale and retail trade	Commodity Credit Corporation.....
Wholesale trade.....	Other Federal Government enterprises.
Retail trade.....	79 State and local government enterprises
	Local government passenger transit.
	State and local electric utilities.....
	Other state and local government enterprises.
	IMPORTS
FINANCE, INSURANCE AND REAL ESTATE	80 Gross imports of goods and services
70 Finance and insurance	Directly allocated imports.....
Banking.....	Transferred imports.....
Credit agencies.....	
Security and commodity brokers.....	DUMMY INDUSTRIES
Insurance carriers.....	81 Business travel, entertainment and gifts
Insurance agents and brokers.....	Business travel, entertainment and gifts.
71 Real estate and rental	82 Office supplies.....
Owner-occupied dwellings.....	Office supplies.....
Real estate.....	83 Scrap, used and secondhand goods
	Scrap, used and secondhand goods..
SERVICES	SPECIAL INDUSTRIES
72 Hotels and lodging places, personal and repair services, except automobile repair	84 Government industry
Hotels and lodging places.....	Government industry.....
Personal and repair services except auto repair and barber and beauty shops.	85 Rest of the world industry
Barber and beauty shops.....	Rest of the world industry.....
73 Business services	86 Household industry
Miscellaneous business services.....	Household industry.....
Advertising.....	
Miscellaneous professional services.....	

Table A - II
SOVIET SECTOR DEFINITION

<u>SOVIET SECTOR</u>	<u>DESCRIPTION</u>	<u>DSA SECTOR</u>
1	ORES AND METALS	1
2	COKE PRODUCTS	2
3	REFRACTORY MATERIALS	INCLUDED IN 1
4	INDUSTRIAL METAL PROD	3
5	COAL	4
6	OIL EXTRACTION	5
7	OIL REFINING	6
8	NATURAL GAS	7
9	PEAT	INCLUDED IN 4
10	OIL SHALES	INCLUDED IN 5
11	ELECTRIC POWER	8
12	ENERGY & POWER M&E	9
13	EL. TECHNOLOGY M&E	10
14	CABLE PRODUCTS	11
15	MACHINE TOOLS	12
16	FORGE PR M&E	13
17	CASTINGS M&E	14
18	TOOLS AND DIES	15
19	PRECISION INSTRUMENTS	16
20	MINING & METALS M&E	17
21	PUMPS AND CHEMICALS M&E	18
22	LOG AND PA M&E	19
23	LIGHT INDUSTRIES M&E	20
24	FD INDUSTRIES M&E	21
25	PRINTING M&E	22
26	HOIST & TRAN M&E	23
27	CONSTRUCTION M&E	24
28	CONSTRUCTION MAT M&E	25
29	TRANSPORTATION M&E	26
30	AUTOMOBILES	27
31	AGRICULTURE M&E	28

32	BEARINGS	29
33	RADIO AND OTHER MB	30
34	SANITATION ENG PRODUCTS	31
35	OTHER METALWORKS	32
36	METAL STRUCTURES	33
37	REPAIR	34
38	ABRASIVES	35
39	MINERAL CHEMICALS	36
40	BASIC CHEMICALS	37
41	ANIL. DYE PRODUCTS	38
42	STYRENES AND PLASTICS	39
43	SYNTHETIC FIBERS	40
44	SYNTHETIC RUBBER	41
45	ORGANIC SYNTHETIC PRODUCTS	42
46	PAINT AND LACQUER	43
47	RUBBER PRODUCTS	44
48	OTHER CHEMICALS	45
49	LOGGING	46
50	SAW AND LUMBER PRODUCTS	47
51	FURNITURE	48
52	OTHER WOODWORK	49
53	PAPER AND PULP	50
54	WOOD CHEMICALS	51
55	CEMENT	52
56	PREFABRICATED CONCRETE	53
57	WALL MATERIALS	54
58	ASBESTOS CEMENT PROD.	55
59	ROOFING MATERIALS	INCLUDED IN 57
60	CONSTRUCTION CERAMICS	56
61	OTHER CONSTRUCTION MAT.	57
62	GLASS	58
63	COTTON MATERIALS	59 [TEXTILES]
64	SILK MATERIALS	INCLUDED IN 59
65	WOOL MATERIALS	INCLUDED IN 59
66	FLAX MATERIALS	INCLUDED IN 59
67	HOSIERY AND KNITWEAR	60

68	OTHER TEXTILES	61
69	SEWN GOODS	62
70	OTHER LIGHT INDUSTRIES	63
71	FISH PRODUCTS	64
72	MEAT PRODUCTS	65
73	DAIRY PRODUCTS	66
74	SUGAR	67
75	FLOUR AND CEREAL	68
76	BREAD AND BAKERY PRODUCTS	69
77	CONFECTIONS	70
78	VEGETABLE OILS	71
79	FRUIT AND VEG. PRODUCTS	72
80	OTHER FOODS	73
81	INDUSTRIES N.E.C.	74
82	CONSTRUCTION	75
83	CROPS	76
84	ANIMAL HUSBANDRY	77
85	FORESTRY	78
86	TRANSPORTATION & COM.	79
87	TRADE & DISTRIBUTION	80
88	OTHER BRANCH	81

Table A - III (cont'd)

P0	69.0100	69.0200	26.0200	26.0301	26.0400	26.0100			
P1	3.0000	26.0100	13.0300	13.0400	13.0500	13.0600	13.0700	60.0100	60.0200
P2	13.0100	13.0200	61.0100	61.0200	65.0500	65.0700	67.0000		60.0300
P3	60.0400	65.0200	65.0400	71.0200	77.0300				
P4	65.0200	71.0100	77.0200						
P5	77.0100								
P6	77.0400								
P7	4.0000	70.0100	70.0200	70.0300	70.0400	70.0500	72.0100	72.0300	73.0100
P8	73.0300	76.0200	77.0500						73.0200
	78.0000								

APPENDIX B

THE CORRELATION MEASURE

APPENDIX B

THE CORRELATION MEASURE

1.0 INTRODUCTION

This Appendix provides a brief explanation of the correlation measure that was used to assess the degree of correspondence between the actual Soviet Input-Output tables and the "predicted" tables as derived from the U.S. input-output data, after adjusting for differences in prices and activity levels. The correlation measure was used both as a diagnostic method to identify problems in the concordance between U.S. and Soviet economic sectors, and as an evaluation measure to assess the quality of the final correspondence between the "predicted" and actual Soviet data.

This correlation measure is a standard statistical measure that can be used to assess the degree of correlation between any two vectors (or sequences of numbers). The correlation is defined so that for any two identical vectors the correlation is 1.0, and for any randomly selected vectors the expected correlation is zero. When used as a diagnostic tool, the measure was applied separately to individual "predicted" rows or "predicted" columns to evaluate their correspondence to the comparable rows or columns in the actual Soviet data. When the measure was used to assess the overall correspondence between the "predicted" and the actual Soviet matrix, the entire matrix was interpreted as one very long vector whose length was equal to the number of columns multiplied by the number of rows, and the comparison was made between these two (predicted and actual) very long vectors.

2.0 DISCUSSION

2.1 THE UNDERLYING CONCEPT

If two vectors are uncorrelated, we would have no reason to expect their sum to be greater than their difference. On the other hand, if the vectors are correlated we would expect their sum to be greater than their difference. Indeed, if two vectors are identical, the difference is by definition equal to zero. The mathematical definition of correlation is designed to exploit these obvious relationships in order to provide a quantitative measure of the degree of correlation between any two vectors. For mathematical convenience, however, the actual correlation measure works with the squares of the sum and the difference, rather than with the actual sum and difference.

Consider two vectors X_i and Y_i . If the two vectors are added, the square of the sum is given by $SUMSQ = (X_i + Y_i)^2$ and for the difference it is given by $DIFSQ = (X_i - Y_i)^2$. The standard correlation measure is given by:

$$CORR = \frac{SUMSQ - DIFSQ}{SUMSQ + DIFSQ} \quad (1)$$

Notice that if the vectors are identical, so that DIFSQ is equal to zero, the correlation is identically equal to one. Similarly, if the vectors are exactly equal and opposite, so that SUMSQ is equal to zero, then the value of the correlation is minus one.

2.2 THE CONVENTIONAL MATHEMATICAL FORM

From the above definition of correlation, it is easy to show algebraically that the correlation can also be written in the more conventional mathematical form, as follows:

$$\text{CORR} = \frac{\sum (2 x_i y_i)}{\sum (x_i^2 + y_i^2)} \quad (2)$$

The foregoing definition of correlation is very close to what was used in comparing the "predicted" to the actual Soviet input-output data.

2.3 APPLICATION TO THE INPUT-OUTPUT DATA

If the above measure of correlation were applied directly to the data elements of an input-output matrix, some positive correlation could be expected even between randomly selected data elements, because the elements of an input-output matrix are all positive. To eliminate this misleading indication of a positive correlation between random data elements, the correlations reported in this analysis were calculated not for the actual vector elements, x_i and y_i , but rather for the difference between these vector elements and the average value of the elements in any vector.

In this way, we maintained the desirable property that the calculated correlation between randomly ordered vector elements would be zero. Specifically, the correlation was calculated as follows. If we represent the "predicted" vector by x_i and the actual vector by y_i , we can calculate the average value u for the elements of the x vector and a corresponding average value v for the elements of the y vector. We can then generate a new set of vectors X_i and Y_i which represent the difference between the individual vector elements and the average vector element as follows:

$$X_i = x_i - u \quad (3)$$

and

$$Y_i = y_i - v \quad (4)$$

In the present analysis, the correlation measure defined in Eq. 2 above was applied to these different vectors \hat{X} and \hat{Y} rather than to the actual vectors x and y . This approach ensured that any observed correlation would reflect a real correlation between the economic data elements, rather than just the fact that all the data elements are positive.

2.4 MEANING OF THE CORRELATION RESULTS

The actual correlations that were calculated in the analysis tended to be quite high. Indeed, the overall correlation after minimizing the effects of differences in price and activity levels was close to .95. To understand the significance of this degree of correlation, it is useful to consider what types of differences between the predicted and actual matrices could have produced such a result.

Two different types of discrepancies can be considered.

1. Random misclassification of data elements
2. Random variations in the magnitude of the data elements

In the first case, if all of the predicted data was identically equal to the actual data with the exception of a random misclassification of one element in twenty, one would expect a correlation of .95. In the second case, if the predicted data were identically equal to the actual data except for a random deviation in magnitude of 32.5%, it would also produce a correlation of .95.

Actually, the source of error is not exclusively due to either factor alone. Thus, it is of interest to consider what mix of the two types of errors could produce the observed results. If we consider a case in which the two sources of error contribute equally to reducing the correlation, we find that the

observed correlation could be produced by a random misclassification of one element in forty, combined with a standard deviation of about 23% in the magnitude of the data elements.

From this analysis, it is clear that a correlation of .95 is indicative of quite a good correspondence between the predicted and actual matrix. In particular, it indicates quite a good correspondence in the concordance between the economic sectors. On the other hand, the correspondence in the magnitude of the data elements is not good enough to be very useful in predicting such magnitude, except in cases where no other source of data is available.

APPENDIX C

METHODOLOGY USED TO CONVERT SOVIET TRADE DATA
TO PRODUCERS' PRICES

APPENDIX C
METHODOLOGY USED TO CONVERT SOVIET
TRADE DATA INTO PRODUCERS' PRICES

Tables C - I and C - II show the raw Soviet trade data supplied by the Bureau of Economic Analysis (BEA). These data are in purchasers' prices. The "unidentified" portion is assumed to be military hardware and was included as trade for DSA sector 82, Military Production.

To convert the trade data to producers' prices, several tables were created by Vladimir Trem1. Table C - III was used to estimate transportation and distribution costs. It gives separate rates (rubles/ruble) of transportation and distribution of all material goods in 1974. Cost ratios were estimated on the basis of available transportation charges, and estimated consumer retail trade and supply and distribution charges.⁽¹⁾ In all instances, freight and distribution charges were estimated on the basis of the value of output in producers' prices; i.e., with turnover taxes removed and subsidies added to the value in purchasers prices.

⁽¹⁾ The latter from Gallik, Kostinsky, and Trem1, Input-Output Structure of the Soviet Economy, 1972, U.S. Department of Commerce.

The freight cost ratios in Table C - III are applicable to all entries in the first and second quadrants. Trade cost ratios are applicable only to imported consumer goods (Table C - IV). Supply cost ratios are applicable to all other imports, i.e., first quadrant imports.

Table C - IV separates total imports by sector (measured in domestic purchasers' prices) into imported consumer goods (i.e., imports which are recorded in the final demand consumption column) and all other imports (i.e., imports which constitute intermediate goods are recorded in the first quadrant and imports which constitute investment elements in the investment column of final demand). The estimates are made on the basis of the nature of the product as described in foreign trade handbooks and converted to domestic purchasers' prices by means of applicable import conversion coefficients. For example, we know from foreign trade sources that imports of the category "pumps and compressors" include 9,500 household refrigerators. The average price of a Soviet refrigerator was 250 rubles. We will estimate the price of an imported refrigerator at 300 rubles and calculate the value of total imports at 2,850,000 rubles. In other instances when imports of a specific group of consumer goods were too aggregated to price out separately, the average import conversion coefficient derived in Trembl and Kostinsky (1982) was used.

The data in Table C - V are complementary to Table C - IV but cover machinery imports only. In addition to the separate identification of imported machinery consumer goods (taken from Table C - IV), the table divides other machinery imports into the category of intermediate goods (spare parts, components, tools and instruments) which would be recorded in the first quadrant, and the category of investment goods which would be recorded under the investment column in the final demand.

The separation of imported machinery into investment and intermediate goods is based on the description of imports given in standard Soviet foreign trade statistical sources and may not be complete. Thus, Soviet sources record imports of casting machinery and equipment in terms of a single aggregate value and this value is shown under investment. It is possible that imported casting machinery in fact included some spare parts and components which should have been recorded under intermediate goods, but the separation was impossible without additional information.

Table C - VI shows estimated turnover tax payments on imports of consumer goods and intermediate goods. Only sectors which recorded imports subject to tax in 1972 are shown.

From the above tables, the trade data were converted as follows:

Exports: "Freight" and "supply" costs were estimated by applying the applicable rate shown in Table C - III to the value of exports, and by subtracting from the published purchasers' value.

Imports:

1. First, subtract turnover tax payments (Table C - VI) from imports (Table C - IV).
2. Next, calculate "freight" charges by applying the rate in Table C - III to the result of step 1.
3. Next, calculate "trade" charges (consumer goods) or "supply" charges (other imports) by applying the proper rate of Table C - III to the result of Step 1.

4. Subtract the results of steps 2 and 3 from the result of step 1.
5. Finally, subtract special charges from the Ministry of Finance (Table C -VII).

Soviet rules of taxation are very complex and inconsistent. The basic rule is that imported goods should be sold at prices set at levels of prices charged for comparable domestic goods including turnover taxes if applicable. Thus, presumably if a domestically produced good is priced at X rubles, which includes Y rubles of the tax, the imported good should be priced similarly. However, detailed regulations concerning turnover tax rates specifically exclude certain imported commodities from taxation such as wine, beer, and tobacco products. These goods are still priced at the level of prices of similar domestic goods but the tax is not collected and turned over to the Treasury as is the case with tax collected on domestic wines, beer, and tobacco products. Nevertheless, regardless of the terms used and the manner of collection, domestic prices of imported goods such as wines include an element of additional revenues which could be called quasi-tax, special earnings of foreign trade, or profit of foreign trade. These quasi-tax payments are collected through the Ministry of Foreign Trade and ultimately paid into the Treasury.

The data on turnover tax payments tabulated in Table C - VI include both explicitly recognized turnover taxes and the hidden or quasi-tax payments, since both types should be removed in the process of conversion from purchasers' to producers' prices. The estimates in Table C - VI were derived by applying average turnover tax rates effective in 1972 to domestic values of imports in purchasers' prices.

We have a definite Soviet statement that the Ministry of Foreign Trade of the U.S.S.R. charges 2% of the value of imports in foreign trade rubles on all important machinery. This reference was found in a Soviet source dealing with machinery imports only, and we therefore concluded that a similar 2% charge is levied on all imports. Table C - VII lists these changes based on import values in foreign trade rubles as estimated by Treml and Kostinsky.

Table C - I

SOVIET EXPORTS: 1972, 88-SECTORS
(In thousands of rubles, except coefficients)

Sector number	Designation	In foreign trade prices		Conversion coefficient	In domestic prices	
		Identified	Unidentified		Identified	Unidentified
	Total ¹	19,667,001	1,999,152	1.407	15,979,780	1,839,220
1-6	Metallurgy.....	2,719,883	0	1.309	3,559,197	0
1	Ores and metals.....	2,558,062	0	1.304	3,334,941	0
2	Coke products.....	134,316	0	1.405	188,714	0
3	Refractory materials.....	7,058	0	1.200	8,470	0
4	Industrial metal products..	20,447	0	1.324	27,072	0
5-10	Fuels.....	2,055,887	0	1.294	2,661,340	0
5	Coal.....	322,853	0	1.785	576,293	0
6	Oil extraction.....	1,097,396	0	1.036	1,136,902	0
7	Oil refining.....	566,209	0	1.574	891,213	0
8	Gas.....	69,429	0	0.820	56,932	0
9	Peat.....	0	0	(X)	0	0
10	Oil shales.....	0	0	(X)	0	0
11	Electric power and steam.....	75,991	0	1.827	138,800	0
12-38	Machine-building and metalworking.....	2,723,618	1,999,152	0.920	2,505,729	1,839,220
12	Energy and power M&E.....	217,437	27,189	0.920	200,042	25,014
13	Electrotechnical M&E.....	100,406	132,744	0.920	92,374	122,124
14	Cable products.....	29,474	36,185	0.920	27,116	33,290
15	Machine tools.....	111,629	27,988	0.920	102,699	25,749
16	Forging and pressing M&E...	19,042	6,197	0.920	17,519	5,701
17	Casting M&E.....	2,321	1,599	0.920	2,135	1,471
18	Tools and dies.....	16,604	18,992	0.920	15,276	17,473
19	Precision instruments.....	135,191	107,954	0.920	124,376	99,318
20	Mining and metallurgical equipment.....	355,166	44,381	0.920	326,752	40,831
21	Pumps and compressors.....	101,441	49,979	0.920	93,326	45,981
22	Logging and paper M&E.....	17,246	5,598	0.920	15,866	5,150
23	Light industry M&E.....	29,692	13,394	0.920	27,317	12,322
24	Food industry M&E.....	20,922	11,595	0.920	19,248	10,667
25	Printing M&E.....	6,531	1,000	0.920	6,009	920
26	Hoisting-transport equipment.....	93,576	23,390	0.920	86,090	21,519
27	Construction M&E.....	105,257	27,988	0.920	96,836	25,749
28	Construction materials M&E.	21,374	8,397	0.920	19,664	7,725
29	Transportation M&E.....	199,074	88,762	0.920	183,148	81,661
30	Automobiles.....	618,725	195,917	0.920	569,227	180,244
31	Tractors and agricultural M&E.....	242,907	135,942	0.920	223,474	125,067
32	Bearings.....	50,012	15,194	0.920	46,011	13,978
33	Other machine-building.....	218,839	610,141	0.920	201,332	561,330
34	Sanitary engineering equipment.....	2,416	88,762	0.920	2,223	81,661
35	Other metal wares.....	4,619	24,789	0.920	4,249	22,806
36	Metal structures.....	0	31,387	0.920	0	28,376
37	Repair of M&E.....	0	256,491	0.920	0	235,972
38	Abrasives.....	3,717	7,197	0.920	3,420	6,621
39-48	Chemicals.....	545,230	0	2.000	1,090,460	0
39	Mineral chemistry products.	102,857	0	2.000	205,714	0
40	Basic chemistry products...	216,684	0	2.000	433,368	0
41	Aniline dye products.....	6,280	0	2.000	12,560	0
42	Synthetic resins and plastics.....	41,498	0	2.000	82,996	0
43	Synthetic fibers.....	4,856	0	2.000	9,712	0

Table C - I (cont'd)

SOVIET EXPORTS: 1972, 88-SECTORS--Continued

Sector number	Designation	In foreign trade prices		Conversion coefficient	In domestic prices	
		Identified	Unidentified		Identified	Unidentified
44	Synthetic rubber.....	23,222	0	2.000	46,444	0
45	Organic synthetic products.	18,579	0	2.000	37,158	0
46	Paints and lacquers.....	10,563	0	2.000	21,126	0
47	Rubber and asbestos products.....	53,333	0	2.000	106,666	0
48	Other chemicals.....	67,358	0	2.000	134,716	0
49-54	Woodworking and paper.....	813,907	0	1.482	1,206,533	0
49	Logging.....	243,228	0	1.102	268,037	0
50	Sawmills and woodworking...	379,228	0	1.422	539,262	0
51	Furniture.....	5,535	0	1.500	8,303	0
52	Other woodworking.....	10,390	0	1.500	15,585	0
53	Paper and pulp.....	170,299	0	2.158	367,505	0
54	Wood chemistry products....	5,227	0	1.500	7,841	0
55-62	Construction materials and glass.....	118,096	0	1.261	148,924	0
55	Cement.....	23,948	0	1.762	42,196	0
56	Prefab concrete.....	0	0	(X)	0	0
57	Wall materials and tile....	569	0	1.122	638	0
58	Asbestos cement and slate..	4,901	0	1.222	5,499	0
59	Roofing materials.....	895	0	1.222	1,004	0
60	Construction ceramics.....	334	0	1.222	375	0
61	Other construction materials.....	80,439	0	1.222	90,253	0
62	Glass.....	7,010	0	1.278	8,959	0
63-70	Textiles and apparel.....	602,352	0	2.945	1,773,783	0
63	Cotton.....	499,181	0	2.858	1,426,659	0
64	Silk.....	4,357	0	3.695	16,099	0
65	Wool.....	27,353	0	4.442	121,502	0
66	Flax.....	11,849	0	3.626	42,964	0
67	Knitwear.....	9,275	0	2.929	27,166	0
68	Other textiles.....	24,774	0	2.929	72,563	0
69	Sewn goods.....	7,029	0	2.929	20,588	0
70	Other light industry.....	18,534	0	2.495	46,242	0
71-80	Food.....	443,396	0	4.036	1,790,288	0
71	Fish products.....	88,051	0	5.282	465,085	0
72	Meat products.....	54,532	0	6.294	343,224	0
73	Dairy products.....	37,085	0	3.594	133,283	0
74	Sugar.....	5,193	0	5.243	27,227	0
75	Flour and cereal.....	45,579	0	2.423	110,438	0
76	Bread and bakery products..	0	0	(X)	0	0
77	Confections.....	7,020	0	2.395	16,813	0
78	Vegetable oils.....	120,094	0	3.080	369,890	0
79	Fruit and vegetable products.....	11,059	0	2.400	26,542	0
80	Other food.....	74,783	0	3.982	297,786	0
81	Industry n.e.c.....	91,184	0	3.605	328,726	0
82	Construction.....	0	0	(X)	0	0
83-84	Agriculture.....	409,893	0	1.727	708,000	0
83	Crops.....	324,125	0	1.287	417,180	0
84	Animal husbandry.....	85,768	0	3.391	290,820	0
85	Forestry.....	0	0	(X)	0	0

Table C - I (cont'd)

SOVIET EXPORTS: 1972, 88-SECTORS--Continued

Sector number	Designation	In foreign trade prices		Conversion coefficient	In domestic prices	
		Identified	Unidentified		Identified	Unidentified
86	Transportation and communications.....	0	0	(X)	0	0
87	Trade and distribution.....	0	0	(X)	0	0
88	Other branches of material production.....	67,564	0	1.006	68,000	0

X Not applicable.

¹Total exports in foreign trade prices excludes the value of services exported as part of complete plants (see chapter VI, section B).

Table C - II

SOVIET IMPORTS: 1972, 88-SECTORS
(In thousands of rubles, except coefficients)

Sector number	Designation	In foreign trade prices		Conversion coefficient	In domestic prices	
		Identified	Unidentified		Identified	Unidentified
	Total.....	13,309,200		(X)	30,955,837	419,163
1-4	Metallurgy.....	1,217,162	0	1.023	1,245,000	0
1	Ores and metals.....	1,144,294	0	1.000	1,144,611	0
2	Coke products.....	15,849	0	1.653	26,194	0
3	Refractory materials.....	18,082	0	1.000	18,087	0
4	Industrial metal products....	38,937	0	1.441	56,108	0
5-10	Fuels.....	383,431	0	1.775	691,710	0
5	Coal.....	160,275	0	1.295	216,639	0
6	Oil extraction.....	111,185	0	1.047	116,376	0
7	Oil refining.....	46,135	0	3.507	161,795	0
8	Gas.....	65,836	0	2.991	196,900	0
9	Peat.....	0	0	(X)	0	0
10	Oil shales.....	0	0	(X)	0	0
11	Electric power and steam.....	0	0	(X)	0	0
12-38	Machine-building and metalworking.....	4,734,822	425,065	0.978	4,625,837	419,163
12	Energy and power M&E.....	72,895	5,781	0.994	72,439	5,746
13	Electrotechnical M&E.....	237,163	28,224	1.056	250,537	29,820
14	Cable products.....	103,011	7,694	1.019	104,941	7,839
15	Machine tools.....	336,504	5,951	1.027	345,515	6,110
16	Forging and pressing M&E.....	100,386	1,318	0.986	98,954	1,300
17	Casting M&E.....	26,321	340	1.053	27,724	358
18	Tools and dies.....	12,494	4,038	1.107	13,834	4,471
19	Precision instruments.....	353,594	22,954	0.909	321,536	20,374
20	Mining and metallurgical equipment.....	193,084	9,436	1.009	194,785	9,520
21	Pumps and compressors.....	480,586	10,627	1.005	483,189	10,680
22	Logging and paper M&E.....	115,806	1,190	1.016	117,681	1,208
23	Light industry M&E.....	168,450	2,848	0.957	161,251	2,726
24	Food industry M&E.....	124,069	2,465	0.972	120,583	2,396
25	Printing M&E.....	41,145	213	0.964	39,671	206
26	Hoisting-transport equipment.....	266,360	4,973	0.899	239,369	4,470
27	Construction M&E.....	75,890	5,951	0.830	62,990	4,940
28	Construction materials M&E....	36,264	1,785	1.017	36,864	1,815
29	Transportation M&E.....	617,233	18,873	0.911	562,042	17,186
30	Automobiles.....	469,406	41,656	1.054	494,520	43,888
31	Tractors and agricultural M&E.....	282,563	28,904	0.961	271,486	27,783
32	Bearings.....	12,675	3,230	1.036	13,136	3,348
33	Other machine-building.....	563,027	129,730	0.969	545,850	125,731
34	Sanitary engineering equipment.....	0	5,271	0.971	0	5,119
35	Other metal wares.....	22,630	18,873	0.997	22,604	18,764
36	Metal structures.....	9,589	6,674	1.038	9,964	6,930
37	Repair of M&E.....	5,437	54,536	0.995	5,408	54,463
38	Abrasives.....	8,240	1,530	1.088	8,964	1,665
39-48	Chemicals.....	1,034,014	0	3.000	3,102,042	0
39	Mineral chemistry products....	10,034	0	3.000	30,102	0
40	Basic chemistry products.....	139,232	0	3.000	417,696	0
41	Aniline dye products.....	51,937	0	3.000	155,811	0
42	Synthetic resins and plastics.....	87,867	0	3.000	263,601	0
43	Synthetic fibers.....	67,434	0	3.000	202,302	0

Table C - II (cont'd)

SOVIET IMPORTS: 1972, 88-SECTORS--Continued

Sector number	Designation	In foreign trade prices		Conversion coefficient	In domestic prices	
		Identified	Unidentified		Identified	Unidentified
44	Synthetic rubber.....	74,781	0	3.000	224,343	0
45	Organic synthetic products...	72,232	0	3.000	216,696	0
46	Paints and lacquers.....	140,959	0	3.000	422,877	0
47	Rubber and asbestos products.	44,732	0	3.000	134,196	0
48	Other chemicals.....	344,806	0	3.000	1,034,418	0
49-54	Woodworking and paper.....	483,593	0	2.790	1,349,000	0
49	Logging.....	5,023	0	2.790	14,012	0
50	Sawmills and woodworking.....	43,453	0	2.790	121,214	0
51	Furniture.....	224,264	0	2.790	625,592	0
52	Other woodworking.....	15,718	0	2.790	43,846	0
53	Paper and pulp.....	193,151	0	2.790	538,802	0
54	Wood chemistry products.....	1,984	0	2.790	5,534	0
55-62	Construction materials and glass.....	123,860	0	3.221	399,000	0
55	Cement.....	5,911	0	3.221	19,041	0
56	Prefab concrete.....	0	0	(X)	0	0
57	Wall materials and tile.....	0	0	(X)	0	0
58	Asbestos cement and slate....	0	0	(X)	0	0
59	Roofing materials.....	0	0	(X)	0	0
60	Construction ceramics.....	6,751	0	3.221	21,748	0
61	Other construction materials.....	77,226	0	3.221	248,774	0
62	Glass.....	33,972	0	3.221	109,437	0
63-70	Textiles and apparel.....	2,122,677	0	5.394	11,450,000	0
63	Cotton.....	276,411	0	3.365	930,188	0
64	Silk.....	103,227	0	4.146	427,979	0
65	Wool.....	249,886	0	7.573	1,892,462	0
66	Flax.....	6,232	0	2.732	17,026	0
67	Knitwear.....	273,445	0	7.174	1,961,641	0
68	Other textiles.....	132,929	0	2.000	265,858	0
69	Sewn goods.....	526,939	0	4.630	2,439,728	0
70	Other light industry.....	553,608	0	6.349	3,515,118	0
71-80	Food.....	1,298,469	0	3.304	4,290,400	0
71	Fish products.....	14,069	0	2.000	28,138	0
72	Meat products.....	26,294	0	2.000	52,588	0
73	Dairy products.....	26,957	0	2.250	60,635	0
74	Sugar.....	224,492	0	2.291	514,311	0
75	Flour and cereal.....	55,054	0	6.566	361,485	0
76	Bread and bakery products....	0	0	(X)	0	0
77	Confections.....	2,871	0	2.000	5,742	0
78	Vegetable oils.....	33,225	0	4.000	132,900	0
79	Fruit and vegetable products.	217,246	0	5.000	1,086,230	0
80	Other food.....	698,261	0	2.934	2,048,353	0
81	Industry n.e.c.....	94,393	0	4.670	440,818	0
82	Construction.....	0	0	(X)	0	0
83-84	Agriculture.....	1,340,265	0	2.400	3,217,000	0
83	Crops.....	1,167,148	0	2.120	2,474,674	0
84	Animal husbandry.....	173,117	0	4.288	742,326	0
85	Forestry.....	0	0	(X)	0	0

Table C - II (cont'd

)
 SOVIET IMPORTS: 1972, 88-SECTORS--Continued

Sector number	Designation	In foreign trade prices		Conversion coefficient	In domestic prices	
		Identified	Unidentified		Identified	Unidentified
86	Transportation and communications.....	0	0	(X)	0	0
87	Trade and distribution.....	0	0	(X)	0	0
88	Other branches of material production.....	51,449	0	2.818	145,000	0

X Not applicable.

Table C - III

Freight and Distribution Costs, 1972 Input-Output Data(Rubles per ruble of output)

	<u>Freight</u>	<u>Trade</u>	<u>Supply</u>
1. Ores and metals	0.0684	0.0059	0.0180
2. Coke products	0.0526	0	0.0005
3. Refractory materials	0.1026	0	0.0014
4. Industrial metal products	0.0687	0.2435	0.0061
5. Coal	0.1476	0.0221	0.0275
6. Oil extraction	0.2649	0	0
7. Oil refining	0.1852	0.0238	0.0766
8. Gas	0.4518	0.0001	0.0232
9. Peat	0.0998	0	0
10. Oil shales	0.0363	0	0
11. Electrical power	0.0020	0	0
12. Energy & power M&E	0.0525	0	0.0057
13. Electrotechnical M&E	0.0500	0.0856	0.0117
14. Cable products	0.0740	0.0151	0.0111
15. Machine tools	0.0752	0	0.0232
16. Forging-pressing M&E	0.0422	0	0.0116
17. Casting M&E	0.0748	0	0.0113
18. Tools & dies	0.0653	0.0305	0.0370
19. Precision Instruments	0.0480	0.1047	0.0172
20. Mining M&E	0.0661	0	0.0106
21. Pumps & compressors	0.0441	0.0716	0.0193

Table C - III (cont'd)

	<u>Freight</u>	<u>Trade</u>	<u>Supply</u>
22. Logging and woodworking M&E	0.0431	0	0.0047
23. Light industry M&E	0.0673	0.1991	0.0136
24. Food industry M&E	0.0449	0	0.0191
25. Printing M&E	0.0363	0	0.0092
26. Hoisting M&E	0.0283	0	0.0075
27. Construction M&E	0.0426	0	0.0088
28. Construction Material M&E	0.0646	0	0.0196
29. Transportation M&E	0.0291	0.1328	0.0009
30. Automobiles	0.04739	0.1219	0.0110
31. Agricultural M&E	0.0473	0	0.0433
32. Bearings	0.0892	0.0005	0.0335
33. Radio products & other MB	0.0157	0.0736	0.0027
34. Sanitary Engineering Prod.	0.0440	0.2475	0.0043
35. Other metalware	0.0285	0.1019	0.0031
36. Metal structures	0.0449	0	0.0016
37. Repair of M&E	0.0021	0	0
38. Abrasives	0.0344	0	0.0017
39. Mineral chemistry	0.1861	0	0
40. Basic chemical products	0.0691	0.0349	0.0378
41. Aniline dye products	0.0310	0.0032	0.0032
42. Syn. resins & plastics	0.0332	0.0022	0.0022
43. Synthetic fibers	0.0226	0.0013	0.0013
44. Synthetic Rubber	0.0770	0	0.01200
45. Organic syn. products	0.0455	0.0019	0.0019
46. Paints and lacquer	0.0591	0.2378	0.0051

Table C - III (cont'd)

	<u>Freight</u>	<u>Trade</u>	<u>Supply</u>
47. Rubber products	0.0351	0.0317	0.0092
48. Other chemicals	0.0358	0.2739	0.0032
49. Logging	0.2430	0.0522	0.0118
50. Woodworking and lumber	0.1130	0.3398	0.0273
51. Furniture	0.0457	0.0458	0
52. Other woodworking	0.0284	0.0816	0.0087
53. Paper and pulp	0.0653	0.3163	0.03654
54. Wood chemistry	0.0370	0	0.0043
55. Cement	0.1386	0.3323	0.0222
56. Prefabricated concrete	0.1668	0	0.0028
57. Wall materials	0.2652	0.3835	0.0094
58. Asbestos materials	0.1428	0	0.0508
59. Roofing materials	0.1666	0.1737	0.0389
60. Construction ceramics	0.1617	0.0271	0.0078
61. Other construction mat.	0.3734	0.0612	0.0055
62. Glass	0.0782	0.1838	0.0084
63. Cotton materials	0.0067	0.1307	0.0005
64. Silk	0.0144	0.0816	0.0006
65. Wool	0.0162	0.0880	0.0001
66. Flax	0.0133	0.0665	0.0001
67. Hosiery & knitwear	0.0130	0.0908	0.0001
68. Other textiles	0.0186	0.1769	0.0006
69. Sewn goods	0.0100	0.0484	0.0136
70. Other light industry	0.0089	0.0880	0.0062

Table C - III (cont'd)

	<u>Freight</u>	<u>Trade</u>	<u>Supply</u>
71. Fish products	0.0609	0.0982	0.0039
72. Meat products	0.0034	0.1020	0.0003
73. Dairy products	0.0125	0.0991	0.0008
74. Sugar	0.0251	0.2045	0.0070
75. Flour & cereals	0.0222	0.1421	0.0171
76. Bread & bakery products	0.01379	0.1174	0.0259
77. Confections	0.0200	0.1179	0.0008
78. Vegetable oils	0.0317	0.2195	0.0068
79. Fruit & vegetable products	0.0441	0.1836	0.0046
80. Other foods	0.0107	0.2231	0.0059
81. Industry NEC	0.0107	0.0605	0.0034
82. Construction	0.0012	0	0
83. Crops	0.0221	0.0896	0.0585
84. Animal husbandry	0.0027	0.0110	0.0207
85. Forestry	0.0194	0	0
86. Transport. & com.	0.0009	0	0
87. Trade & distribution	0.0077	0	0
88. Other branches	0.0653	0.1930	0.0111

Table C - IV
Division of Imports into Final Consumer Goods
and Intermediate and Investment Goods

(Thousands of Rubles)

	<u>Intermediate/ Investment goods</u>	<u>Consumer goods</u>
1. Ores and metals	1,144,611	0
2. Coke products	26,194	0
3. Refractory materials	18,087	0
4. Ind. metal prod.	56,108	0
5. Coal	216,639	0
6. Oil extraction	116,376	0
7. Oil refineries	161,795	0
8. Gas	196,900	0
9. Peat	0	0
10. Oil shales	0	0
11. Electrical power	0	0
12. Energy & power M&E	78,185	0
13. Electrotech. M&E	189,365	90,992
14. Cable products	112,780	0
15. Machine tools	351,625	0
16. Forging & press. M&E	100,254	0
17. Casting M&E	28,082	0
18. Tools and dies	18,305	0
19. Precision instr.	330,261	12,154

Table C - IV (cont'd)

	<u>Intermediate/ Investment goods</u>	<u>Consumer goods</u>
20. Min. & metal M&E	204,305	0
21. Pumps & Comp.	491,319	2,550
22. Log. & Woodworking M&E	118,889	0
23. Light ind. M&E	147,708	16,269
24. Food ind. M&E	122,979	0
25. Printing M&E	39,877	0
26. Hoisting & Trans. M&E	243,839	0
27. Const. M&E	67,930	0
28. Const. mat. M&E	38,679	0
29. Transportation M&E	579,228	0
30. Automobiles	420,662	117,746
31. Agricultural M&E	299,269	0
32. Bearings	16,484	0
33. Radio-electronics	657,984	13,597
34. Sanitary engineering	5,119	0
35. Other metalware	16,072	25,296
36. Metal structures	16,896	0
37. Repair	59,671	0
38. Abrasives	10,629	0
39. Mineral chemistry	30,102	0
40. Basic chemicals	417,696	0
41. Aniline dye	155,811	0

Table C - IV (cont'd)

	<u>Intermediate/ Investment goods</u>	<u>Consumer goods</u>
42. Synth. resins and plastics	263,601	0
43. Synth. fibers	202,304	0
44. Synth. rubber	224,343	0
45. Org. syn. prod.	121,881	94,815
46. Paints	422,877	0
47. Rubber products	134,196	0
48. Other chemicals	170,475	863,943
49. Logging	14,012	0
50. Lumber products	121,214	0
51. Furniture	0	625,592
52. Other woodworking	0	43,846
53. Paper	538,291	511
54. Wood chemistry	5,534	0
55. Cement	19,041	0
56. Prefab. concrete	0	0
57. Wall materials	0	0
58. Asbestos	0	0
59. Roofing materials	0	0
60. Construction ceramics	21,748	0
61. Other cons. materials	248,774	0
62. Glass	16,453	92,984
63. Cotton materials	535,558	394,630
64. Silk materials	427,979	0
65. Wool materials	1,232,218	660,244

Table C - IV (cont'd)

	<u>Intermediate/ Investment Goods</u>	<u>Consumer goods</u>
66. Flax materials	0	17,026
67. Hosiery & knitted goods	0	1,961,641
68. Other textiles	126,058	139,800
69. Sewn goods	0	2,439,728
70. Other light ind. prod.	0	3,515,118
71. Fish products	0	28,138
72. Meat products	0	52,588
73. Dairy products	0	60,635
74. Sugar	309,380	204,931
75. Flour - cereal	0	361,485
76. Bread	0	0
77. Confections	0	5,742
78. Vegetable oil	28,295	104,605
79. Fruit & Veg. prod.	0	1,086,230
80. Other foods	102,418	1,945,935
81. Industry NEC	0	440,858
82. Construction	0	0
83. Crops	0	2,474,674
84. Animal husbandry	277,597	464,729
85. Forestry	0	0
86. T&C	0	0
87. T&D	0	0
88. Other branches	2,542	142,448
Totals	12,873,502	18,501,808

* small errors are due to rounding

Table C - V

Division of Imports of Machinery and Equipment
into First Quadrant (intermediate), Consumer Goods,
and Investment Goods

(Thousands of Rubles--Purchasers' Prices)

	First Quadrant	Final Demand	
		Consumption	Investment
12. Energy and power	39,349	0	38,836
13. Electrotechnical	51,822	90,992	37,543
14. Cable products	112,780	0	
15. Machine tools	0	0	351,625
16. Forging & pressing M&E	0	0	100,254
17. Casting M&E	0	0	28,082
18. Tools and dies	18,305	0	0
19. Precision instruments	132,772	12,154	197,489
20. Mining M&E	0	0	204,305
21. Pumps & compressors	4,980	2,850	485,979
22. Logging & Woodworking M&E	0	0	118,889
23. Light ind. M&E	0	16,269	147,708
24. Food ind. M&E	0	0	122,979
25. Printing M&E	0	0	39,877
26. Hoisting M&E	3,812	0	240,027
27. Construction M&E	10,651	0	57,279
28. Const. mat. M&E	0	0	38,679

Table C - V (cont'd)

	First Quadrant	Final Demand	
		Consumption	Investment
29. Transportation M&E	22,715	0	556,513
30. Automobiles	47,666	117,746	372,996
31. Agricultural M&E	20,985	0	278,284
32. Bearings	16,484	0	0
33. Radio-electronics	60,835	13,597	597,149
34. Sanitary engineering	5,119	0	0
35. Other metalware	16,072	25,296	0
36. Metal structures	0	0	16,896
37. Repair	59,671	0	0
38. Abrasives	10,629	0	0
Totals	<u>734,647</u>	<u>278,904</u>	<u>4,031,389</u>

Grand Total

5,044,940

Table C - VI

Estimated Turnover Tax Payments on Imports
Broken Down into Taxes on Intermediate
and Consumer Goods

(Thousands of Rubles)

	<u>Intermediate goods</u>	<u>Consumer goods</u>
7. Oil refinery products	51,993	0
13. Electrotech. products	0	22,566
19. Precision instruments	0	4,461
21. Pumps & compressors	0	1,003
23. Light ind. M&E	0	9,648
30. Automobiles	0	58,873
33. Radio electronics	0	2,420
35. Other metalwares	0	9,208
48. Other chemical prod.	0	248,816
52. Other woodworking prod.	0	7,892
53. Paper	0	152
60. Construction ceramics	108	0
61. Other constr. materials	2,488	0
62. Glass	402	17,971
63. Cotton prod.	84,083	121,704
64. Silk products	202,392	0
65. Wool products	171,155	174,430
66. Flax products	0	763
67. Hosiery & knitwear	0	633,676

Table C - VI (cont'd)

	<u>Intermediate goods</u>	<u>Consumer goods</u>
68. Other textiles	5,471	39,703
70. Other light ind. prod.	0	1,252,442
74. Sugar	0	60,783
77. Confections	0	893
78. Vegetable oil	3,650	26,360
80. Other foods	0	1,087,850
81. Industry NEC	<u>0</u>	<u>61,720</u>
Totals	521,742	3,843,334

Table C - VII

Special Charges of the Ministry of Foreign Trade
of the USSR Included in the Value of Imports
in Purchasers' Prices

(Thousands of Rubles)

<u>Sector</u>	<u>Charges</u>	<u>Sector</u>	<u>Charges</u>
1.	22,886	20.	4,050
2.	317	21.	9,824
3.	362	22.	2,340
4.	779	23.	3,426
5.	3,206	24.	2,531
6.	2,224	25.	827
7.	923	26.	5,427
8.	1,317	27.	1,637
9.	not imported	28.	761
10.	not imported	29.	12,722
11.	not imported	30.	10,221
12.	1,574	31.	6,229
13.	5,308	32.	318
14.	2,214	33.	13,855
15.	6,849	34.	105
16.	2,034	35.	830
17.	533	36.	325
18.	331	37.	1,199
19.	7,531	38.	195

Table C - VII (cont'd)

<u>Sector</u>	<u>Charges</u>	<u>Sector</u>	<u>Charges</u>
39.	201	62.	679
40.	2,785	63.	5,528
41.	1,039	64.	2,065
42.	1,757	65.	4,998
43.	1,349	66.	125
44.	1,496	67.	5,469
45.	1,445	68.	2,659
46.	2,819	69.	10,539
47.	895	70.	11,072
48.	6,896	71.	281
49.	100	72.	526
50.	809	73.	539
51.	4,485	74.	4,490
52.	314	75.	1,101
53.	3,863	76.	not imported
54.	40	77.	57
55.	118	78.	665
56.	not imported	79.	4,345
57.	not imported	80.	13,965
58.	not imported	81.	1,888
59.	not imported	82.	not imported
60.	135	83.	23,343
61.	1,545	84.	3,462
		85.	not imported

Table C - VII (cont'd)

<u>Sector</u>	<u>Charges</u>
86.	not applicable
87.	not applicable
88.	<u>1,029</u>

Total*	206,184
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*Small error due to rounding

APPENDIX D

DESCRIPTION OF CROSS-ENTROPY MINIMIZATION METHODOLOGY

APPENDIX D

DESCRIPTION OF THE CROSS ENTROPY MINIMIZATION METHODOLOGY

I. GENERAL THEORY

Suppose one has an independent estimate of the probabilities of N events,

$$\{p_i^0, \sum_i^N p_i^0 = 1.0\}$$

Suppose further that one is given some new information expressed in terms of the probabilities (e.g., an expected value of some variable $\sum_i^N x_i p_i$).

To obtain a new set of probabilities $\{p_i\}$ which is consistent with this new information but otherwise completely unbiased, one minimizes the cross entropy

$$S \equiv \sum_{i=1}^N p_i \ln (p_i/p_i^0)$$

subject to the constraint of the new information. It can be shown that this technique yields the same results as Bayesian inference techniques, but in many cases it is easier to implement.

Consider now the input-output table of the economic reconstruction. This matrix consists of N columns (activities) and M rows. Of the M rows, m correspond to industrial sectors while M-m are "value-added" rows. In the cross entropy formalism one may then define:

$$P_{ij} \equiv \frac{a_{ij}}{T},$$

where

$$T \equiv \sum_i^N \sum_j^M a_{ij}$$

and $a_{ij} \equiv$ entry in row j, column i
of the input/output matrix.
(a_{ij} must be ≥ 0.0)

The cross entropy, S, is thus written:

$$S \equiv \frac{1}{T} \sum_i^N \sum_j^M a_{ij} \ln \left[a_{ij} T^0 / a_{ij}^0 T \right]. \quad (1)$$

The "new information" we are given is that the rows and columns must sum to the same quantity:

$$\sum_{k=1}^M a_{jk} - \sum_{i=1}^N a_{ij} = 0 \quad j = 1, m \quad (2)$$

Our task is to minimize S subject to the above constraints. This is easily done through the technique of Lagrange multipliers. The Lagrangian is written as:

$$\begin{aligned} L &= S + \sum_{j=1}^m \lambda_j \left[\sum_{k=1}^M a_{jk} - \sum_{i=1}^N a_{ij} \right] \\ &= S - \sum_{j=1}^M \sum_{i=1}^N \left[\gamma_j \lambda_j - \gamma_i \lambda_i \right] a_{ij} \end{aligned}$$

where

$$\begin{aligned} \gamma_i &= 1.0 & i \leq m \\ \gamma_i &= 0.0 & i > m \end{aligned}$$

To minimize S subject to the constraints, we simply minimize L :

$$\frac{dL}{da_{ij}} = 0 \longrightarrow \frac{dS}{da_{ij}} = \gamma_j \lambda_j - \gamma_i \lambda_i \quad (3)$$

Rewriting Equation (1) for S:

$$S = - \ln (T/T^0) + \frac{1}{T} \sum_{i=1}^N \sum_{j=1}^M a_{ij} \ln (a_{ij}/a_{ij}^0)$$

and noting that:

$$\frac{dT}{da_{ij}} = 1.0,$$

we see that:

$$\begin{aligned} \frac{dS}{da_{ij}} &= \frac{-1}{T} - \frac{1}{T} \left[S + \ln (T/T^0) \right] + \\ &\quad \frac{1}{T} \left[1 + \ln (a_{ij}/a_{ij}^0) \right] \\ &= \frac{1}{T} \left[\ln (a_{ij} T^0 / a_{ij}^0 T) - S \right] \quad (4) \end{aligned}$$

Combining equations (3) and (4)

$$\frac{1}{T} \left[\ln (a_{ij} T^0 / a_{ij}^0 T) - S \right] = \gamma_j^A - \gamma_i^A$$

or

$$a_{ij} = a_{ij} \left(\frac{T}{T^0} \right) e^S e^{T(\gamma_j \lambda_j - \gamma_i \lambda_i)} \quad (5)$$

Equation (5) describes how to change the input/output matrix to meet the constraints. Every element is multiplied by a common factor, $(T/T^0) e^S$. Furthermore, for each commodity there exists a multiplier, $e^{T\lambda_j}$, which multiplies the commodity row and divides the commodity column. Note that the value added rows, $m < j \leq M$, are divided by the commodity multiplier, but have no row multiplier of their own. Imports can be thought of as an additional "value added" type of row, while exports can be thought of as an additional consumption column. In this way, entries remain positive (all $a_{ij} \geq 0$ for this technique). In practice, the multipliers are found through an iterative process.

II. Confidence Levels

In some cases one may have greater confidence in one column of the I-O matrix than in another. In this case one may modify the cross entropy process somewhat. Instead of defining the probabilities as in the previous section, let:

$$p_{ij} = f_i a_{ij} / T$$

where

$$T = \sum_{i=1}^N \sum_{j=1}^M f_i a_{ij}$$

Note that each p_{ij} is still ≥ 0.0 and that $\sum_i \sum_j p_{ij} = 1.0$ as before. The analysis will proceed exactly as in the previous section except that equation (4) will now be:

$$\frac{ds}{da_{ij}} = \frac{f_i}{T} \left[\ln (a_{ij}^{T^0} / a_{ij}^0 T) - s \right] \quad (5)$$

and Equation (5) becomes:

$$a_{ij} = a_{ij}^0 (T/T^0) \exp(s) \exp \left[(T/f_i) (\gamma_j \lambda_j - \gamma_i \lambda_i) \right] \quad (7)$$

The multiplier for each element in column i has been raised to the $1.0/f_i$ power. Note that if any column has zero confidence, this amounts to putting all changes (to meet the constraints) into that column.

III. Variable Activity Levels

If the relative values of a column are known, but the overall activity level is uncertain, i.e., if for the original a_{ij}^0 ,

$$a_{ij}^0 = x_i^0 \alpha_{ij}^0 ; \quad \sum_j \alpha_{ij}^0 = 1.0$$

and the $\{\alpha_{ij}^0\}$ are well known but x_i^0 is not, then we may also minimize S over x_i^0 as well as over the other a_{ij} . Since from Equation (1):

$$S = \frac{1}{T} \sum_i^N \sum_j^M a_{ij} \ln \left[a_{ij} T^0 / a_{ij}^0 T \right]$$

and since:

$$\frac{d (T^0 / a_{ij}^0)}{d x_k^0} = \frac{1}{a_{ij}^0} - \frac{T x_{ij}^0}{a_{ij}^{02}} \delta_{ik} ,$$

we have:

$$\begin{aligned} \frac{dS}{dx_k^0} &= \frac{1}{T} \sum_i^N \sum_j^M a_{ij} \left(\frac{a_{ij}^0}{T^0} \right) \left[\frac{1}{a_{ij}^0} - \frac{\delta_{ik} T^0 x_{ij}^0}{a_{ij}^{02}} \right] \\ &= \frac{1}{T} \sum_i^N \sum_j^M \frac{a_{ij}}{T^0} - \frac{1}{T} \sum_j^M \frac{a_{kj} x_{kj}^0}{a_{kj}^0} \\ &= \frac{1}{T^0} - \frac{1}{T} \frac{x_k}{x_k^0} \end{aligned}$$

where the last step used the fact that

$$\alpha_{kj}^o = \frac{a_{kj}^o}{x_j^o} \quad \text{and}$$

$$x_k = \sum_j^M a_{kj}$$

Setting $\frac{dS}{dx_k^o}$ to zero, we find at optimum:

$$\frac{x_k}{x_k^o} = \frac{T}{T^o},$$

i.e., the best activity level to start with is that which produces a ratio of a posteriori to a priori activity levels equal to the ratio of the total a posteriori to a priori ratio. This result is independent of whether column confidences are specified.

APPENDIX E

EXPANDED 1972 SOVIET INPUT-OUTPUT TABLES

APPENDIX E

EXPANDED 1972 SOVIET INPUT-OUTPUT TABLES

	1	2	3	4	5	6	7
IND 1	13037.76	10.72	905.44	62.00	6.10	15.95	1.30
IND 2	1749.13	76.48	0.17	4.76	0.09	9.20	0.00
IND 3	82.09	0.93	27.91	26.54	1.78	1.33	0.26
IND 4	1008.44	1426.78	5.03	3491.29	0.03	0.03	0.24
IND 5	1.53	1.27	0.05	4.75	118.78	3444.54	82.30
IND 6	196.72	1.34	9.01	12.01	10.77	287.62	9.30
IND 7	209.93	6.06	4.89	0.41	22.07	91.90	101.39
IND 8	1499.58	38.90	45.32	359.88	159.47	409.27	43.22
IND 9	6.57	0.11	0.15	1.01	0.30	0.23	0.23
IND 10	67.05	1.56	2.93	17.14	5.08	3.14	0.53
IND 11	24.01	0.41	0.86	37.04	2.95	1.13	0.39
IND 12	3.50	0.03	0.18	0.14	0.07	0.20	0.01
IND 13	4.00	0.02	0.12	0.06	0.09	0.01	0.20
IND 14	3.15	0.25	0.00	0.04	0.01	0.00	0.21
IND 15	31.45	0.40	4.09	9.90	2.78	1.40	0.52
IND 16	10.19	0.37	0.30	2.73	0.91	2.72	0.30
IND 17	306.32	3.87	3.06	148.24	14.17	10.95	1.49
IND 18	10.11	1.00	0.10	1.97	0.95	4.37	1.18
IND 19	0.05	0.01	0.00	0.04	0.00	0.00	0.00
IND 20	0.02	0.00	0.00	0.00	0.00	0.00	0.20
IND 21	0.01	0.00	0.00	0.00	0.00	0.00	0.20
IND 22	0.02	0.00	0.00	0.00	0.00	0.00	0.20
IND 23	7.21	0.08	0.31	1.69	0.07	0.05	0.02
IND 24	20.32	0.00	0.00	1.86	0.03	0.00	0.00
IND 25	3.50	0.02	0.00	0.01	0.00	0.00	0.20
IND 26	15.53	0.44	0.09	2.31	0.01	0.05	0.20
IND 27	34.45	0.23	0.90	2.98	1.07	2.12	0.39
IND 28	11.06	0.02	0.03	6.59	0.43	0.23	0.24
IND 29	14.99	0.15	0.76	2.38	0.38	0.42	0.24
IND 30	112.93	2.83	4.71	52.20	15.74	15.53	0.24
IND 31	3.98	0.19	0.26	1.29	0.10	0.25	0.22
IND 32	34.93	0.40	1.89	9.35	0.36	1.73	0.47
IND 33	6.03	0.56	0.81	3.53	0.02	0.03	0.20
IND 34	1186.97	58.32	38.21	414.33	136.06	164.94	28.42
IND 35	30.50	0.05	1.43	0.59	0.09	0.13	0.25
IND 36	14.15	0.27	0.06	1.41	0.10	1.18	0.21
IND 37	290.01	15.63	12.95	78.91	15.40	97.95	2.50
IND 38	0.59	0.00	0.02	0.31	0.21	0.90	0.00

	1	2	3	4	5	6	7
IND 39	5.97	0.14	0.44	0.44	1.14	0.50	0.22
IND 40	15.50	0.01	0.12	0.26	0.11	0.03	0.20
IND 41	0.27	0.20	0.00	0.00	0.20	0.00	0.13
IND 42	5.99	1.14	0.73	1.03	3.71	67.03	11.71
IND 43	19.04	1.28	1.22	3.23	1.54	2.03	0.31
IND 44	123.52	2.14	1.47	44.07	4.16	3.14	0.57
IND 45	15.79	0.39	1.57	5.59	6.53	12.61	0.39
IND 46	42.64	0.15	1.22	213.49	1.27	0.44	0.25
IND 47	78.57	1.77	19.76	80.61	1.20	4.34	0.25
IND 48	4.93	0.06	0.19	2.24	0.62	0.64	0.39
IND 49	6.18	0.15	3.52	4.03	0.21	0.23	0.33
IND 50	25.14	0.71	3.39	2.12	8.14	3.53	1.41
IND 51	15.57	0.75	0.21	0.03	0.07	2.73	0.25
IND 52	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 53	0.00	0.20	0.00	0.00	0.20	0.00	0.20
IND 54	0.00	0.30	0.00	0.00	0.00	0.00	0.30
IND 55	0.00	0.00	0.00	0.30	0.30	0.30	0.30
IND 56	0.00	0.30	0.00	0.00	0.00	0.00	0.20
IND 57	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 58	9.39	0.22	1.26	0.07	0.45	1.60	0.29
IND 59	28.74	0.55	12.71	4.95	2.11	3.91	0.21
IND 60	1.71	0.00	0.69	0.06	0.03	0.01	0.21
IND 61	11.78	0.29	79.02	2.12	1.10	0.55	0.19
IND 62	59.27	1.08	3.49	40.92	4.92	3.64	0.70
IND 63	12.14	0.38	0.83	8.65	1.35	0.99	0.25
IND 64	0.49	0.00	0.00	0.00	0.20	0.10	0.20
IND 55	3.18	0.01	0.03	0.01	0.00	0.12	0.20
IND 56	23.63	0.77	1.11	2.55	1.07	22.04	0.25
IND 67	-96.56	0.00	0.00	0.19	0.00	0.00	0.20
IND 68	0.83	0.30	0.01	0.00	0.20	0.00	0.20
IND 69	0.04	0.00	0.00	0.00	0.00	0.00	0.20
IND 70	0.01	0.00	0.00	0.00	0.20	0.00	0.20
IND 71	10.23	0.38	2.42	3.25	0.35	9.49	0.28
IND 72	0.20	0.00	0.01	0.00	0.00	0.00	0.31
IND 73	11.31	0.10	0.49	0.98	0.22	0.74	0.39
IND 74	43.09	10.60	2.28	34.96	4.29	11.79	1.31
IND 75	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 76	2.17	0.01	0.03	0.95	0.29	0.04	0.01

LISTING FOR FILE SU\$DSA, PAGE 1 -- PRODUCTION

IND 77	1	2	3	4	5	6	7
IND 78	0.41	0.00	0.06	0.02	0.03	0.00	0.00
IND 79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 80	1763.27	391.54	36.79	131.27	9.73	1325.24	31.31
IND 81	391.61	78.86	22.33	18.19	3.27	39.91	1.37
IND 82	733.66	0.53	9.71	2.33	0.27	0.10	0.00
IND 83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	359.01	6.13	5.70	54.03	5.22	11.13	-0.04
LABOR	3828.38	101.92	230.01	3479.22	235.33	242.42	44.47
PTI	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PROFIT	8439.18	382.40	242.44	1950.70	3786.22	1588.57	1278.16
TOTAL	36035.00	2533.98	1857.34	10753.72	4601.34	7921.35	1659.35
CAPITAL	31773.88	1089.38	939.53	13490.31	10240.36	4830.28	1901.26
DEPRCATN	1707.51	66.95	56.07	965.11	668.69	422.85	130.25

	8	9	10	11	12	13	14
IND 1	22.98	334.78	937.25	319.36	112.25	41.97	9.55
IND 2	0.41	2.38	10.22	0.19	6.17	1.23	0.27
IND 3	8.05	7.56	39.69	39.79	8.11	1.23	0.46
IND 4	1946.59	1.10	7.41	1.39	0.95	0.13	0.24
IND 5	95.35	0.05	0.41	0.54	0.31	0.10	0.00
IND 6	1040.54	7.30	22.53	7.97	3.79	0.99	0.30
IND 7	428.14	3.43	8.45	0.42	1.70	0.57	0.11
IND 8	165.46	37.99	110.14	25.43	31.07	9.74	2.01
IND 9	31.05	48.43	34.76	0.01	0.17	0.00	0.05
IND 10	27.59	70.16	970.86	7.67	115.30	22.29	3.49
IND 11	8.37	5.45	274.27	23.94	3.65	0.99	0.24
IND 12	0.09	2.99	2.32	0.25	29.95	0.30	0.19
IND 13	0.03	0.35	2.81	0.19	0.43	5.95	0.44
IND 14	0.01	0.22	0.73	0.00	0.29	0.19	0.90
IND 15	6.15	5.95	19.82	0.94	22.17	5.23	1.52
IND 16	7.92	19.28	37.69	0.50	17.13	1.93	0.47
IND 17	0.02	0.16	0.35	0.11	0.01	0.00	0.00
IND 18	1.99	6.82	3.35	0.13	6.32	1.30	0.51
IND 19	0.01	0.02	0.00	0.00	0.00	0.00	0.00
IND 20	0.00	0.00	0.01	1.36	0.00	0.00	0.00
IND 21	0.00	0.00	0.09	0.00	0.00	0.00	0.00
IND 22	0.00	0.02	0.00	0.01	0.00	0.00	0.00
IND 23	0.59	0.66	0.63	0.18	1.41	0.07	0.01
IND 24	0.35	0.25	0.06	0.00	0.07	0.02	0.00
IND 25	0.05	0.12	0.09	0.00	0.00	0.00	0.00
IND 26	0.26	0.29	0.15	0.20	0.03	0.01	0.00
IND 27	6.45	12.53	40.54	0.51	0.68	0.14	0.13
IND 28	1.44	0.99	16.91	0.03	0.10	0.02	0.00
IND 29	1.20	5.50	26.56	0.41	17.69	1.53	0.34
IND 30	82.71	180.06	65.69	13.38	112.20	15.63	5.59
IND 31	1.03	1.15	1.62	0.13	0.42	0.09	0.07
IND 32	4.00	1.24	17.83	3.49	3.57	1.25	0.42
IND 33	0.22	0.16	0.53	0.00	0.44	1.32	0.01
IND 34	735.94	41.03	263.24	22.95	39.95	3.99	2.47
IND 35	0.66	2.91	6.72	0.38	4.26	0.65	0.10
IND 36	0.35	0.51	1.42	0.01	0.02	0.02	0.00
IND 37	39.14	2.63	47.41	1.55	1.49	0.34	0.29
IND 38	0.19	0.02	4.61	2.98	0.12	0.01	0.00

	8	9	10	11	12	13	14
IND 39	5.31	1.84	128.56	152.91	1.70	0.35	0.29
IND 40	0.10	0.03	23.29	5.25	0.10	0.04	0.20
IND 41	0.00	0.20	6.41	60.95	0.00	0.00	0.22
IND 42	0.62	0.35	12.56	0.50	0.70	0.03	0.25
IND 43	4.51	3.99	53.64	26.89	7.79	1.52	0.40
IND 44	9.26	5.18	54.00	13.08	4.31	1.37	0.53
IND 45	5.86	1.97	113.46	21.65	2.70	0.03	0.10
IND 46	3.24	1.34	2.62	1.13	9.16	0.75	0.10
IND 47	5.39	10.85	56.55	10.52	20.06	4.51	1.25
IND 48	6.91	1.64	2.26	0.44	0.77	0.20	0.26
IND 49	1.17	0.18	6.26	0.60	0.64	0.01	0.55
IND 50	1.95	3.16	70.59	15.76	1.54	0.85	0.29
IND 51	0.16	0.13	1.36	3.93	0.19	0.03	0.21
IND 52	0.00	0.00	0.00	0.00	0.00	0.00	0.30
IND 53	0.00	0.00	0.00	0.00	0.00	0.00	0.30
IND 54	0.00	0.00	0.00	0.00	0.00	0.00	0.30
IND 55	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 56	0.00	0.00	0.00	0.00	0.00	0.00	0.30
IND 57	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 58	1.37	0.67	46.14	0.35	0.38	0.03	0.23
IND 59	4.45	3.04	44.53	39.47	2.90	0.31	0.10
IND 60	0.04	0.03	0.87	0.04	0.13	0.00	0.30
IND 61	2.19	1.58	6.42	24.94	0.93	0.14	0.09
IND 62	12.03	3.26	13.58	2.46	3.71	0.83	0.27
IND 63	3.59	1.01	5.03	0.34	1.11	0.24	0.12
IND 64	0.00	0.00	0.03	0.00	0.00	0.00	0.20
IND 65	0.03	0.03	0.24	0.02	0.05	0.01	0.30
IND 66	4.27	1.13	20.79	0.96	1.66	2.55	0.19
IND 67	0.00	0.00	0.00	0.00	0.00	0.00	0.30
IND 68	0.01	0.20	0.08	0.00	0.00	0.00	0.20
IND 69	0.00	0.00	0.00	0.00	0.00	0.01	0.20
IND 70	0.01	0.00	0.00	0.00	0.00	0.00	0.30
IND 71	1.41	0.37	4.82	2.33	0.51	0.07	0.22
IND 72	0.00	0.00	0.01	0.00	0.00	0.00	0.20
IND 73	2.49	0.29	2.00	0.17	0.12	0.02	0.31
IND 74	62.95	5.65	49.92	8.45	6.75	1.40	0.32
IND 75	0.00	0.00	0.00	0.00	0.00	0.00	0.30
IND 76	0.10	0.03	0.19	0.01	0.03	0.00	0.30

IND 77	3	9	10	11	12	13	14
IND 78	0.02	0.07	0.05	0.00	2.20	0.00	0.00
IND 79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 80	1189.52	48.51	249.39	98.48	34.93	9.37	1.94
IND 81	249.92	11.81	53.40	21.48	8.97	2.11	0.50
IND 82	8.71	4.57	4.97	0.18	4.48	0.53	0.21
IND 83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	386.22	6.00	11.33	-0.18	3.07	0.55	0.21
LABOR	1080.43	381.91	1392.49	160.13	329.43	75.93	18.97
PTI	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PROFIT	5671.50	324.64	1564.73	363.93	506.11	126.85	34.18
TOTAL	13392.09	1529.29	6898.76	2003.47	1495.03	356.97	99.27
CAPITAL	40552.12	1062.68	2754.79	501.92	1192.06	253.37	64.02
DEPRCATN	1596.43	64.33	156.07	30.00	77.92	16.37	3.68

	15	17	18	19	20	21
IND 1	227.11	545.85	344.17	33.51	70.37	100.95
IND 2	0.22	7.67	4.00	0.35	3.35	1.41
IND 3	3.49	19.67	12.77	2.95	9.82	4.39
IND 4	0.98	6.19	2.51	0.49	0.95	2.74
IND 5	0.09	0.29	0.15	0.00	0.02	0.02
IND 6	2.93	12.09	6.52	2.09	2.37	1.84
IND 7	0.56	6.81	3.65	0.34	1.05	2.40
IND 8	24.42	64.25	43.57	5.31	13.45	9.27
IND 9	0.02	8.90	7.13	0.17	0.21	0.79
IND 10	11.98	100.29	207.13	13.72	20.13	31.29
IND 11	1.73	6.55	24.06	0.95	1.64	1.79
IND 12	1.44	1.36	1.15	0.10	0.47	0.12
IND 13	0.23	0.51	0.38	0.01	0.02	0.02
IND 14	0.09	0.32	0.06	0.00	0.01	0.51
IND 15	14.58	18.21	17.93	0.94	6.05	2.56
IND 16	2.37	4.10	31.39	1.53	1.39	3.72
IND 17	0.00	73.28	0.03	0.00	0.02	0.00
IND 18	0.18	17.90	144.22	0.87	0.95	2.94
IND 19	0.02	0.04	0.00	9.98	0.00	0.00
IND 20	0.00	0.00	0.02	0.00	40.54	0.12
IND 21	0.00	0.00	0.00	0.00	0.00	13.70
IND 22	0.00	0.00	0.01	0.00	0.05	0.00
IND 23	0.08	1.49	0.28	5.90	0.02	0.17
IND 24	0.02	0.39	0.04	0.13	0.05	0.00
IND 25	0.00	0.00	0.19	0.00	0.03	0.00
IND 26	0.02	2.61	0.66	0.07	0.00	0.04
IND 27	0.35	41.90	14.47	4.22	0.41	32.87
IND 28	0.05	24.25	10.74	22.92	0.33	6.13
IND 29	2.90	27.80	5.35	2.07	7.09	3.40
IND 30	11.77	148.01	151.12	28.71	12.33	16.95
IND 31	0.13	0.95	0.52	0.12	0.54	0.34
IND 32	3.65	8.46	10.13	0.23	1.65	2.27
IND 33	0.35	0.65	0.96	0.00	0.01	0.22
IND 34	18.16	56.96	41.01	6.55	12.32	9.19
IND 35	9.26	3.40	2.02	0.38	1.27	0.71
IND 36	0.01	0.13	0.02	0.00	0.03	0.00
IND 37	2.40	5.63	11.26	0.42	1.34	0.36
IND 38	0.01	0.07	0.02	0.04	0.03	0.04

	15	16	17	18	19	20	21
IND 39	1.73	37.34	2.20	44.73	0.65	5.11	1.15
IND 40	0.21	0.98	0.11	0.25	0.00	0.40	0.03
IND 41	0.00	0.00	0.66	0.00	0.11	0.00	0.00
IND 42	0.12	5.40	0.39	2.55	0.05	0.54	0.14
IND 43	1.11	16.39	7.21	13.32	0.87	5.85	3.44
IND 44	0.94	8.36	21.02	17.98	2.90	15.34	9.22
IND 45	2.07	20.05	3.44	8.00	0.28	2.67	2.49
IND 46	0.67	0.98	2.85	1.77	0.29	0.25	0.57
IND 47	9.11	42.94	14.05	23.57	1.91	9.50	8.18
IND 48	0.34	3.38	0.97	4.52	0.09	22.73	0.12
IND 49	0.93	8.01	0.59	0.54	0.12	7.63	3.17
IND 50	4.30	30.50	4.53	6.25	0.50	1.78	0.50
IND 51	0.02	0.81	0.10	0.12	0.01	0.19	0.04
IND 52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 53	0.00	0.00	0.00	0.00	0.00	0.00	2.20
IND 54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 55	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 56	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 58	0.16	21.59	1.86	7.88	0.06	0.43	0.50
IND 59	4.80	17.10	2.66	6.39	0.90	9.19	0.95
IND 60	0.05	0.21	0.02	0.51	0.02	0.11	0.00
IND 61	0.53	5.37	1.56	2.01	0.23	2.04	0.55
IND 62	2.35	9.89	6.72	5.99	0.72	2.10	1.93
IND 63	0.73	8.93	1.55	1.36	0.20	11.13	0.34
IND 64	0.00	0.01	0.01	0.02	0.00	0.01	0.00
IND 65	0.03	0.62	0.11	0.07	0.00	0.10	0.21
IND 66	0.73	7.97	6.03	4.04	0.22	2.90	0.31
IND 67	0.00	0.01	0.01	0.00	0.00	0.00	0.00
IND 68	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 69	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 70	0.00	0.00	0.01	0.00	0.00	0.00	0.00
IND 71	0.32	4.29	0.55	0.69	0.09	0.25	0.17
IND 72	0.00	0.01	0.00	0.00	0.00	0.01	0.00
IND 73	0.04	1.68	0.23	0.33	0.02	0.10	0.09
IND 74	1.99	27.04	10.20	14.91	1.72	4.19	3.11
IND 75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 76	0.03	0.06	0.10	0.17	0.01	0.02	0.00

	15	16	17	19	19	20	21
IND 77	0.00	0.13	0.07	0.01	0.00	0.00	0.00
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	24.29	97.53	34.26	70.39	9.27	16.95	17.09
IND 80	6.73	26.01	21.70	19.21	2.39	4.32	4.74
IND 91	0.25	6.53	8.55	2.54	0.26	1.13	1.16
IND 92	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 94	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 95	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	2.04	4.45	10.13	5.29	1.20	0.80	1.10
LABOR	258.24	1557.34	509.80	456.37	45.52	173.07	126.05
PTI	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PROFIT	337.57	1770.48	513.22	524.03	85.01	159.45	174.93
TOTAL	1003.96	5489.62	2454.48	2346.74	299.78	674.53	506.16
CAPITAL	559.21	2403.81	1679.28	1339.16	221.37	376.02	245.17
DEPRCATN	38.23	147.85	99.89	76.67	13.05	23.09	13.32

	22	23	24	25	26	27	28
IND 1	5.15	158.93	122.35	33.09	1040.27	1041.15	1169.25
IND 2	0.25	1.63	1.39	1.72	5.20	12.80	22.40
IND 3	0.36	14.44	8.82	2.06	75.15	98.73	54.67
IND 4	0.07	1.29	1.00	0.32	9.43	4.25	7.23
IND 5	0.00	0.03	0.03	0.04	0.48	0.42	1.29
IND 6	0.22	3.79	4.91	1.56	35.25	42.00	31.14
IND 7	0.16	1.90	1.89	0.99	12.34	19.74	11.01
IND 8	1.04	20.62	23.30	11.47	167.07	165.07	171.30
IND 9	0.00	13.22	9.76	0.33	594.29	7.00	5.58
IND 10	1.93	131.55	31.31	16.16	452.55	97.65	136.45
IND 11	0.39	9.22	4.11	1.54	71.93	28.65	9.77
IND 12	0.00	0.82	1.26	0.28	4.98	7.53	5.73
IND 13	0.00	0.06	0.44	0.01	1.16	2.24	3.26
IND 14	0.00	0.39	0.65	0.17	0.35	1.63	2.73
IND 15	0.93	7.28	5.80	2.35	31.40	59.49	61.40
IND 16	0.20	6.54	5.61	1.55	161.35	12.53	9.97
IND 17	0.00	0.02	0.04	0.00	0.24	0.32	0.17
IND 18	0.40	1.33	8.47	0.67	166.99	5.95	19.93
IND 19	0.00	0.00	0.07	0.00	0.10	0.00	0.23
IND 20	0.00	0.00	0.00	0.00	0.33	0.02	0.00
IND 21	0.00	0.00	0.00	0.00	25.93	0.00	0.20
IND 22	0.77	0.00	0.00	0.00	0.14	0.01	0.01
IND 23	0.00	52.92	2.62	2.26	52.22	2.31	1.26
IND 24	0.00	0.74	49.59	0.40	1.00	0.19	0.22
IND 25	0.00	0.00	1.75	5.05	0.03	0.01	0.02
IND 26	0.00	2.31	0.62	0.01	633.70	0.11	0.30
IND 27	0.02	114.35	97.94	3.18	24.70	2323.93	55.56
IND 28	0.00	11.28	348.32	0.38	2.54	40.05	1542.05
IND 29	0.17	17.59	10.91	5.56	63.47	89.55	96.23
IND 30	0.00	77.97	94.89	49.36	979.28	207.93	293.35
IND 31	0.04	0.29	0.86	0.16	11.26	1.63	0.95
IND 32	0.23	8.66	4.33	3.64	35.75	61.97	77.45
IND 33	0.00	0.93	0.17	0.40	1.52	0.05	5.69
IND 34	1.47	22.21	28.54	9.20	215.52	154.33	125.71
IND 35	0.09	0.88	1.07	0.52	7.01	9.74	12.97
IND 36	0.00	0.02	0.05	0.00	0.57	0.19	0.15
IND 37	0.04	1.66	2.43	0.75	29.25	25.55	10.19
IND 38	0.00	0.02	0.01	0.00	1.37	2.00	0.09

	22	23	24	25	26	27	28
IND 39	0.28	2.78	1.16	0.11	31.51	20.50	6.19
IND 40	0.00	0.15	0.03	0.99	2.35	1.02	0.41
IND 41	0.00	0.00	0.00	0.00	0.00	0.00	0.70
IND 42	0.03	0.16	0.10	0.05	2.32	3.52	2.46
IND 43	0.39	8.10	5.09	1.97	67.24	71.13	57.55
IND 44	0.39	30.64	46.77	5.23	58.22	745.93	297.15
IND 45	0.07	1.52	1.73	0.35	23.47	25.13	7.53
IND 46	0.07	0.84	0.61	0.67	12.28	6.85	2.70
IND 47	2.03	9.90	6.54	3.55	104.68	78.03	60.39
IND 48	0.03	0.24	0.37	0.17	28.30	4.59	1.76
IND 49	0.01	1.96	0.57	0.24	7.35	3.24	6.76
IND 50	0.14	0.94	1.28	0.27	26.47	20.42	13.66
IND 51	0.00	0.04	0.03	0.01	0.32	0.13	0.23
IND 52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 53	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 55	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 56	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 58	0.05	0.92	1.41	0.11	9.48	35.37	5.99
IND 59	0.12	1.37	2.07	1.61	34.97	27.27	22.62
IND 60	0.00	0.04	0.00	0.01	0.34	1.10	0.35
IND 61	0.04	0.47	0.84	0.24	15.61	12.85	6.11
IND 62	0.20	3.23	3.20	1.16	25.41	26.05	19.99
IND 63	0.05	0.60	2.60	0.23	10.39	49.25	5.59
IND 64	0.00	0.00	0.00	0.00	0.12	0.02	0.01
IND 65	0.00	0.01	0.07	0.03	0.90	0.25	0.12
IND 66	0.05	0.37	4.65	0.42	9.33	9.02	10.03
IND 67	0.00	0.00	0.00	0.00	0.02	0.00	0.05
IND 68	0.00	0.00	0.00	0.00	0.02	0.02	0.02
IND 69	0.00	0.00	0.00	0.00	0.02	0.00	0.00
IND 70	0.00	0.00	0.00	0.00	0.01	0.00	0.00
IND 71	0.02	0.23	0.24	0.09	4.47	1.79	6.73
IND 72	0.00	0.00	0.00	0.00	0.04	0.01	0.00
IND 73	0.00	0.05	0.12	0.03	2.08	0.61	0.48
IND 74	0.22	10.42	15.22	1.50	67.49	90.75	59.97
IND 75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 76	0.00	0.00	0.01	0.01	0.06	0.02	0.00

IND 77	22	0.01	23	0.07	24	0.01	25	0.00	26	0.03	27	0.10	28	0.00
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	1.34	41.17	50.69	12.92	284.17	320.87	258.47							
IND 80	0.33	10.65	25.10	3.21	61.44	32.72	123.57							
IND 81	0.13	1.30	1.90	0.40	29.92	3.69	19.37							
IND 82	0.00	0.20	0.00	0.00	0.00	0.00	0.00							
IND 83	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
IND 85	0.00	0.20	0.00	0.00	0.00	0.00	0.00							
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
BURDEN	0.21	3.34	2.96	1.47	23.52	30.41	22.54							
LABOR	15.28	205.43	219.01	107.10	1549.80	1481.91	1454.85							
PTI	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
PROFIT	21.00	327.74	323.89	115.53	1540.55	1341.95	508.34							
TOTAL	56.37	1349.69	1572.60	466.88	8953.25	9011.53	6926.46							
CAPITAL	42.57	531.31	621.05	303.37	3105.32	5130.57	3754.23							
DEPRCATN	2.52	36.28	35.63	16.66	169.95	320.90	244.57							

LISTING FOR FILE SU5DSA, PAGE 1 -- PRODUCTION

	29	30	31	32	33	34	35
IND 1	152.55	2118.27	347.85	1059.40	729.65	891.74	38.99
IND 2	0.06	19.78	19.85	3.73	0.31	12.09	0.25
IND 3	15.93	98.57	9.05	88.08	22.79	119.05	0.51
IND 4	0.23	24.01	2.00	12.25	1.17	66.64	1.67
IND 5	0.00	1.55	0.52	0.45	0.07	0.45	0.22
IND 6	6.14	68.94	3.37	10.18	5.42	119.82	2.54
IND 7	1.12	26.99	2.73	2.65	1.49	11.75	0.59
IND 8	27.70	300.32	24.40	61.10	43.98	345.65	22.21
IND 9	0.01	30.22	1.16	0.45	0.18	75.37	0.20
IND 10	2.88	463.21	33.83	72.56	4.72	318.63	1.20
IND 11	1.09	364.12	0.92	13.46	2.31	90.34	2.23
IND 12	2.43	11.23	0.53	1.76	0.48	6.93	0.04
IND 13	0.23	4.68	0.14	1.71	0.38	1.31	0.25
IND 14	0.00	1.09	1.29	0.75	0.00	1.05	0.20
IND 15	5.96	91.56	3.63	26.56	2.02	44.32	1.19
IND 16	0.51	1444.59	6.90	14.96	0.46	97.57	0.20
IND 17	0.00	0.14	0.00	0.24	0.09	37.14	0.19
IND 18	0.24	53.91	3.52	2.54	0.35	77.01	0.16
IND 19	0.00	0.21	0.00	0.25	0.00	1.83	0.20
IND 20	0.00	0.93	0.00	0.28	0.00	1.05	0.20
IND 21	0.00	8.46	0.00	0.16	0.21	3.50	0.20
IND 22	0.00	0.00	0.00	0.09	0.00	0.21	0.20
IND 23	0.04	5.27	0.39	0.59	1.53	12.64	0.26
IND 24	0.00	0.00	0.08	0.33	0.62	79.95	0.22
IND 25	0.00	2.40	0.42	0.06	0.08	4.02	0.21
IND 26	0.02	0.00	0.03	0.08	0.47	141.43	0.21
IND 27	0.26	231.19	1.27	35.15	2.66	666.05	0.22
IND 28	0.24	182.76	0.11	12.93	4.92	865.00	0.29
IND 29	10.42	45.42	0.69	2.31	0.71	94.89	0.15
IND 30	0.00	7303.77	43.29	49.16	12.34	530.77	0.20
IND 31	0.10	23.77	79.23	4.08	3.33	5.49	0.26
IND 32	6.51	391.97	9.38	94.45	4.23	191.32	0.24
IND 33	0.04	4.94	0.16	1.15	0.83	4.63	0.20
IND 34	27.90	547.46	24.76	57.43	29.18	359.04	12.39
IND 35	12.93	144.82	0.85	9.26	0.27	9.21	90.11
IND 36	0.01	3.31	0.19	0.31	0.03	1.87	0.52
IND 37	1.49	106.56	8.24	18.14	6.13	41.17	2.98
IND 38	0.01	9.32	0.16	1.47	0.12	3.33	0.25

	29	30	31	32	33	34	35
IND 39	0.47	72.93	2.26	13.76	0.49	10.15	7.21
IND 40	0.01	39.44	0.45	9.23	0.29	2.54	0.26
IND 41	0.00	0.00	0.00	1.67	0.00	0.00	0.20
IND 42	0.29	10.11	0.84	2.96	0.28	9.57	0.28
IND 43	0.73	55.36	9.67	23.39	12.09	149.57	0.53
IND 44	2.86	347.36	7.45	35.44	2.21	204.02	0.62
IND 45	2.09	216.45	6.35	27.65	0.60	30.53	0.35
IND 46	0.25	9.05	1.30	3.56	0.59	14.62	0.04
IND 47	8.38	250.96	34.33	55.45	23.37	99.41	0.90
IND 48	1.09	14.08	0.67	8.03	0.61	6.19	0.27
IND 49	0.46	35.56	0.84	16.31	1.50	13.82	0.17
IND 50	2.81	16.09	2.14	32.39	0.77	15.57	3.53
IND 51	0.03	7.31	0.32	0.49	0.03	0.35	0.03
IND 52	0.00	0.00	0.00	0.00	0.00	149.75	0.00
IND 53	0.00	0.00	0.00	0.00	0.00	49.49	0.00
IND 54	0.00	0.00	0.00	0.00	0.00	98.54	0.00
IND 55	0.00	0.00	0.00	0.00	0.00	50.52	0.00
IND 56	0.00	0.00	0.00	0.00	0.00	64.23	0.00
IND 57	0.00	0.00	0.00	0.00	0.00	1463.37	0.00
IND 58	0.30	62.09	6.15	12.46	0.45	45.05	1.72
IND 59	3.67	223.52	1.15	29.92	0.76	50.47	36.03
IND 60	0.05	3.92	0.07	0.43	0.06	0.63	0.09
IND 61	1.10	42.55	1.53	10.93	0.51	14.63	0.36
IND 62	3.28	84.78	5.35	17.91	6.19	52.90	1.30
IND 63	0.66	50.09	1.30	30.54	1.48	30.09	1.44
IND 64	0.00	0.07	0.00	0.02	0.00	0.03	0.20
IND 65	0.01	1.57	0.02	1.16	0.03	0.50	11.97
IND 66	4.57	53.08	6.00	4.99	0.70	19.03	0.56
IND 67	0.00	0.03	0.00	0.00	0.00	0.02	0.20
IND 68	0.00	0.15	0.00	0.02	0.00	0.00	0.25
IND 69	0.00	0.00	0.01	0.00	0.00	0.00	0.20
IND 70	0.00	0.00	0.00	0.01	0.00	0.00	0.22
IND 71	0.36	16.73	0.70	3.00	0.90	4.15	0.10
IND 72	0.00	0.02	0.00	0.00	0.27	0.01	0.20
IND 73	0.09	6.77	0.09	0.93	0.07	1.73	1.44
IND 74	1.98	0.00	5.64	15.17	2.30	90.85	3.93
IND 75	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 76	0.01	0.00	0.04	0.41	0.01	0.20	0.24

	29	30	31	32	33	34	35
IND 77	0.00	0.20	0.02	0.07	0.03	0.11	0.20
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 79	20.15	535.36	48.04	131.65	66.73	345.05	12.14
IND 80	5.53	151.81	11.25	34.60	17.79	116.98	1.93
IND 81	0.35	19.45	1.58	12.78	0.25	51.95	0.25
IND 82	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 83	0.00	0.20	0.00	0.00	0.00	0.00	0.20
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.20
UND IMPS	0.00	0.20	0.00	0.00	0.00	0.00	0.20
BURDFN	3.04	30.30	3.24	5.50	5.43	497.51	-5.24
LABOR	266.95	7044.82	251.51	1317.21	318.66	7369.64	60.73
PTI	0.00	0.20	0.00	0.00	0.00	0.00	0.20
PROFIT	157.63	4476.78	234.96	529.78	394.37	4059.62	115.25
TOTAL	765.93	28213.97	1337.00	4153.54	1745.27	20511.14	434.55
CAPITAL	841.74	14824.55	631.43	1590.35	961.43	11247.39	241.41
DFPRCATN	62.03	947.62	33.19	99.50	45.37	574.80	13.40

	36	37	38	39	40	41	42
IND 1	5.46	200.34	4.49	10.65	8.66	0.00	7.54
IND 2	0.59	111.84	22.89	2.35	3.16	53.27	77.02
IND 3	6.31	10.26	0.26	0.59	1.25	0.00	0.72
IND 4	0.31	20.69	0.37	0.97	6.91	0.00	0.23
IND 5	0.01	0.32	0.00	0.13	0.12	0.00	0.20
IND 6	16.12	46.20	3.24	14.56	9.14	62.92	90.20
IND 7	2.94	70.20	1.56	2.78	1.93	0.00	39.93
IND 8	44.53	515.55	14.17	71.19	151.32	193.53	194.37
IND 9	0.40	10.19	0.02	0.00	0.05	0.00	0.20
IND 10	3.23	30.52	0.27	2.11	3.51	9.51	1.59
IND 11	1.35	11.91	0.09	0.50	0.53	0.00	0.51
IND 12	0.06	0.76	0.00	0.02	0.32	0.00	0.26
IND 13	0.01	0.24	0.02	0.05	0.02	0.70	0.28
IND 14	0.00	0.04	0.02	0.00	0.23	0.00	0.03
IND 15	0.74	5.03	0.21	1.16	1.55	0.00	0.91
IND 16	0.28	13.28	0.25	1.13	1.28	0.00	1.33
IND 17	6.17	1.05	0.00	0.00	0.03	0.00	0.02
IND 18	0.86	20.03	0.49	1.39	16.29	1.80	4.30
IND 19	0.00	0.02	0.00	0.00	0.00	0.00	0.00
IND 20	0.00	0.09	0.02	0.00	15.32	0.00	0.00
IND 21	0.00	0.00	0.01	0.00	0.20	0.00	0.00
IND 22	0.00	0.03	0.00	0.00	0.00	0.00	0.00
IND 23	0.15	0.57	0.01	0.04	0.10	0.00	0.25
IND 24	0.59	0.32	0.00	0.00	0.01	0.00	0.21
IND 25	0.16	0.34	0.00	0.00	0.00	0.00	0.00
IND 26	0.51	0.93	0.00	0.00	0.01	1.95	0.03
IND 27	2.11	5.47	0.09	0.22	0.39	0.00	0.28
IND 28	0.90	6.60	0.00	0.02	0.07	0.00	0.11
IND 29	0.44	14.17	0.05	0.12	0.57	0.00	0.15
IND 30	46.69	596.94	7.05	43.46	62.69	0.00	39.25
IND 31	0.16	1.64	0.02	0.18	0.41	0.00	0.22
IND 32	0.36	16.96	0.72	3.79	3.52	0.00	0.72
IND 33	0.00	0.41	0.00	0.00	0.00	0.00	0.00
IND 34	30.99	358.02	10.74	50.92	67.62	31.39	67.96
IND 35	0.06	0.99	0.01	0.14	0.22	0.00	0.07
IND 36	7.69	287.05	14.02	16.02	6.00	4.51	8.49
IND 37	25.98	522.37	39.06	59.35	130.52	74.04	84.90
IND 38	0.02	4.16	49.03	9.08	17.16	5.20	1.56

LISTING FOR FILE SU\$DSA, PAGE 1 -- PRODUCTION

IND 39	36	37	38	39	40	41	42
IND 40	8.94	31.25	0.59	187.54	330.63	15.42	3.35
IND 41	2.79	1.60	0.70	0.04	-40.63	3.69	0.25
IND 42	0.00	0.00	0.00	0.00	0.00	1.37	0.20
IND 43	4.71	153.45	25.67	442.68	54.42	339.40	186.89
IND 44	0.71	24.74	0.57	3.68	2.00	7.73	1.93
IND 45	9.85	33.60	0.62	5.39	2.14	1.01	1.95
IND 46	1.25	84.29	2.44	34.69	14.05	16.64	6.11
IND 47	0.90	1.77	0.12	0.13	0.39	0.00	0.32
IND 48	1.17	50.32	1.69	2.75	1.04	0.00	2.47
IND 49	0.18	3.57	0.15	0.43	0.62	0.00	0.41
IND 50	1.13	2.95	1.29	19.20	2.00	0.00	0.33
IND 51	1.12	79.82	0.29	37.26	255.41	0.00	13.21
IND 52	0.57	35.58	1.24	3.94	3.75	42.63	8.34
IND 53	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 54	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 55	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 56	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 57	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 58	1.23	6.09	0.39	12.75	0.70	0.45	3.72
IND 59	1.01	95.92	2.79	130.90	31.36	0.00	1.22
IND 60	0.04	1.44	0.00	0.03	0.22	0.00	0.23
IND 61	0.41	5.89	0.09	0.59	4.75	0.00	0.34
IND 62	1.70	29.76	1.33	2.51	5.91	2.91	2.00
IND 63	0.54	7.12	0.22	1.41	0.90	0.00	0.62
IND 64	0.00	9.14	2.79	0.27	0.01	0.00	0.20
IND 65	0.01	8.82	0.01	0.73	0.19	0.00	0.20
IND 66	7.51	24.91	1.79	7.56	6.30	0.00	2.24
IND 67	0.00	0.51	0.00	0.00	0.00	0.00	0.20
IND 68	0.00	0.96	0.00	0.00	0.00	0.00	0.20
IND 69	0.00	0.35	0.00	0.20	0.00	0.00	0.20
IND 70	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 71	0.14	8.36	2.84	3.58	0.76	0.00	69.79
IND 72	0.00	1.00	0.00	0.00	0.00	0.00	0.21
IND 73	0.50	50.30	0.73	3.35	0.79	33.03	3.29
IND 74	0.50	9.70	0.78	4.35	4.62	0.00	2.18
IND 75	0.00	0.20	0.00	0.20	0.00	0.00	0.20
IND 76	0.00	2.48	0.01	0.01	0.04	0.00	0.25

	36	37	38	39	40	41	42
IND 77	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	13.91	300.15	14.59	55.44	57.10	48.20	99.50
IND 80	4.25	56.38	2.89	8.97	20.24	12.37	19.26
IND 81	0.22	5.57	0.19	0.19	0.17	0.00	0.24
IND 82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UNT IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDFN	4.24	42.41	1.55	-7.02	3.03	17.75	49.03
LABOR	147.35	921.16	28.05	118.58	202.32	100.53	135.29
PTI	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PROFIT	245.31	1757.24	110.27	505.24	501.75	271.94	303.49
TOTAL	668.30	6923.62	375.80	1990.20	1982.71	1359.93	2031.14
CAPITAL	1352.14	9038.13	319.64	1135.36	2169.80	1363.21	1666.33
DFPRCATN	66.79	488.32	15.08	61.48	124.99	74.30	98.54

	43	44	45	46	47	48	49
IND 1	162.25	15.68	145.06	13.35	44.29	9.23	12.51
IND 2	21.75	0.50	24.60	0.01	11.32	0.17	15.59
IND 3	0.66	40.75	1.23	19.20	32.70	49.13	4.39
IND 4	2.75	2.15	3.74	2.52	13.59	11.85	2.96
IND 5	0.03	1.43	1.31	1.35	15.55	0.35	3.90
IND 6	9.56	28.68	52.52	133.67	39.25	7.65	6.01
IND 7	1.91	3.51	21.11	0.01	3.73	3.32	0.56
IND 8	12.06	104.54	91.89	34.33	159.39	47.95	9.30
IND 9	0.03	0.09	0.09	2.52	0.96	0.19	0.27
IND 10	0.31	4.80	6.14	3.97	11.22	2.93	0.79
IND 11	0.44	1.06	1.75	3.02	4.49	3.35	0.26
IND 12	0.03	0.34	0.59	0.73	11.02	2.15	0.25
IND 13	0.02	0.16	0.85	0.06	0.29	0.05	0.02
IND 14	0.01	0.03	0.07	0.00	0.24	0.01	0.20
IND 15	0.53	6.72	1.69	7.32	14.56	5.83	1.19
IND 16	0.16	0.94	4.94	0.47	1.28	0.53	0.24
IND 17	0.07	3.55	0.35	0.01	0.01	0.00	0.21
IND 18	0.51	15.18	10.60	0.50	1.31	0.45	0.40
IND 19	0.00	0.02	0.00	32.61	8.55	1.03	0.31
IND 20	0.00	0.47	0.90	0.00	0.01	0.02	0.20
IND 21	0.00	0.00	0.04	0.01	0.01	0.00	0.20
IND 22	0.00	0.00	0.54	0.00	0.00	0.00	0.00
IND 23	0.04	0.45	0.12	2.63	2.40	0.22	0.24
IND 24	0.02	0.03	0.04	1.70	0.09	0.01	0.20
IND 25	0.00	0.20	0.01	0.01	0.31	0.00	0.20
IND 26	0.00	0.11	0.02	6.36	0.29	0.03	0.27
IND 27	0.53	5.15	1.54	60.98	12.09	2.99	1.53
IND 28	0.03	0.17	0.09	43.78	3.81	0.49	0.95
IND 29	0.08	0.70	0.53	2.17	2.16	0.44	0.21
IND 30	6.24	76.59	149.03	2.54	7.04	2.01	0.48
IND 31	0.07	0.32	0.65	0.31	2.72	0.74	0.09
IND 32	13.17	17.49	18.97	12.49	55.86	95.35	13.30
IND 33	0.01	0.00	0.02	0.11	2.27	0.82	0.20
IND 34	19.91	84.54	73.09	166.80	194.26	40.67	12.36
IND 35	0.08	0.28	0.86	0.46	3.95	17.34	0.97
IND 36	8.93	4.14	8.08	0.00	0.08	0.02	0.24
IND 37	31.70	27.69	150.07	1.07	13.30	1.91	2.23
IND 38	17.61	61.74	9.01	0.03	0.43	6.43	0.13

	43	44	45	46	47	48	49
IND 39	86.89	13.54	402.72	0.04	52.03	34.60	4.26
IND 40	0.21	567.10	10.67	0.00	0.16	1.33	0.22
IND 41	0.00	1275.54	0.00	0.00	0.00	15.13	0.00
IND 42	94.21	13.48	143.19	0.19	20.21	9.21	0.33
IND 43	343.77	25.02	43.47	2.21	41.65	139.65	7.27
IND 44	0.59	99.49	21.19	39.92	13.56	12.43	1.36
IND 45	15.51	178.82	495.48	2.06	32.99	51.31	2.93
IND 46	0.30	0.43	0.63	156.01	2237.41	45.15	83.79
IND 47	12.02	12.25	21.97	48.68	1127.51	598.91	311.37
IND 48	0.09	0.81	1.44	1.13	4.97	22.13	0.37
IND 49	1.63	0.74	4.05	5.22	24.24	19.75	15.52
IND 50	6.97	7.93	76.63	1.02	23.07	16.73	6.99
IND 51	41.20	11.75	12.67	0.19	2.29	0.53	0.16
IND 52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 53	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 55	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 56	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 58	5.53	1.17	75.66	0.72	9.35	124.37	1.10
IND 59	1.09	443.86	172.88	2.01	19.23	260.92	5.39
IND 60	0.01	3.16	0.44	0.03	0.39	0.11	0.20
IND 61	0.12	4.59	6.79	5.14	10.62	15.25	0.30
IND 62	1.34	16.29	9.65	40.95	22.05	12.25	1.60
IND 63	0.30	11.46	6.94	11.54	4.24	12.62	0.93
IND 64	0.02	0.00	7.71	0.05	0.13	0.04	0.00
IND 65	0.60	0.08	27.69	0.14	9.25	3.33	2.20
IND 66	1.59	10.55	20.77	0.73	8.99	7.55	1.07
IND 67	0.00	0.00	12.69	0.03	0.00	0.00	0.00
IND 68	0.04	0.01	3.84	0.02	0.21	0.02	0.30
IND 69	0.00	0.00	0.02	0.06	0.00	0.00	0.00
IND 70	0.00	0.11	0.97	0.00	0.00	0.00	0.00
IND 71	478.72	10.25	43.10	0.67	4.09	0.82	0.24
IND 72	0.00	0.00	1.70	0.00	0.00	0.01	0.00
IND 73	0.69	0.91	53.14	0.02	0.36	0.45	0.49
IND 74	5.69	7.53	9.11	4.75	35.62	13.35	4.11
IND 75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 76	0.17	0.09	9.74	4.79	7.73	0.00	0.22

LISTING FOR FILE SU\$DSA,

PAGE 1 -- PRODUCTION

IND 77	43	44	45	46	47	48	49
IND 78	0.00	0.00	15.44	0.05	0.72	0.05	0.22
IND 79	0.00	0.00	0.00	473.42	2.00	0.00	0.20
IND 80	71.92	172.95	134.26	116.05	880.28	137.84	73.32
IND 81	12.98	28.64	30.00	25.77	83.14	27.54	13.13
IND 82	2.16	3.43	47.02	2.75	1.91	3.90	0.11
IND 83	0.00	0.20	0.00	0.00	0.00	0.00	2.20
IND 84	0.00	0.00	0.00	0.00	0.20	0.00	0.30
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	2.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.20
BURDEN	69.46	-26.75	2.74	97.50	34.55	102.80	3.96
LABOR	86.11	389.34	711.75	2063.61	1487.95	739.84	371.57
PTI	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PROFIT	373.57	1034.33	1023.34	933.96	1337.11	986.61	66.97
TOTAL	2026.77	4928.82	4442.61	4599.40	8212.58	3533.83	1078.28
CAPITAL	407.31	1546.18	2345.20	3481.15	4251.06	1213.59	344.53
DEPRCATN	20.25	88.43	124.77	299.39	293.38	76.92	24.47

	50	51	52	53	54	55	56
IND 1	18.40	0.58	53.81	941.93	20.32	3.49	12.20
IND 2	0.19	0.01	2.44	1.20	3.25	0.00	0.24
IND 3	3.41	0.09	16.09	94.95	1.24	0.00	0.93
IND 4	74.19	2.14	53.20	31.05	104.81	1.13	1.31
IND 5	1.02	0.00	2.75	0.32	0.74	0.00	0.06
IND 6	22.44	2.42	46.23	48.33	28.50	2.24	7.11
IND 7	4.61	0.20	71.73	18.54	24.86	0.91	4.34
IND 8	136.44	2.62	147.69	164.37	81.43	10.00	8.21
IND 9	0.39	0.00	0.14	0.34	0.52	0.00	0.04
IND 10	4.44	0.16	3.14	10.93	4.75	0.54	1.12
IND 11	1.32	0.07	1.10	5.43	2.37	0.21	0.30
IND 12	0.55	0.00	0.05	0.71	0.08	0.00	0.22
IND 13	0.01	0.00	0.02	0.22	0.39	0.00	0.14
IND 14	0.01	0.00	0.01	0.03	0.29	0.00	0.20
IND 15	1.99	0.11	0.93	6.77	2.06	0.30	0.54
IND 16	1.04	0.03	0.75	1.47	0.79	0.13	0.26
IND 17	0.01	0.00	0.17	0.03	0.15	0.00	0.00
IND 18	1.05	0.05	0.46	1.16	0.43	0.10	0.59
IND 19	14.18	0.04	0.00	0.01	0.00	0.00	0.20
IND 20	0.82	0.00	0.00	0.00	0.20	0.00	0.20
IND 21	0.00	0.00	0.00	0.00	0.00	0.00	0.30
IND 22	0.40	0.00	0.00	0.00	0.22	0.00	0.20
IND 23	0.76	0.00	1.15	2.29	0.95	0.09	0.13
IND 24	0.04	0.00	0.71	2.10	1.91	0.01	0.17
IND 25	0.09	0.00	23.45	13.86	14.33	2.34	0.93
IND 26	0.20	0.02	0.33	0.31	0.05	0.04	0.22
IND 27	1.03	0.08	2.07	4.66	5.98	0.13	0.43
IND 28	0.20	0.01	0.49	1.98	2.11	0.05	0.16
IND 29	1.24	0.02	0.64	1.49	1.59	0.15	0.24
IND 30	3.14	0.11	17.13	54.43	24.36	2.95	6.00
IND 31	0.37	0.03	0.29	12.09	0.39	0.07	0.91
IND 32	3.58	0.11	0.00	4.33	0.59	0.00	0.39
IND 33	0.01	0.00	0.01	5.04	0.01	0.00	0.20
IND 34	150.53	4.57	247.22	1729.79	466.82	147.59	22.98
IND 35	0.54	0.01	0.09	0.97	0.19	0.04	0.06
IND 36	21.05	0.00	0.59	0.02	0.05	0.01	0.29
IND 37	66.98	5.75	2.50	3.52	1.23	0.51	4.74
IND 38	4.71	0.00	0.01	0.31	0.05	0.32	0.25

	50	51	52	53	54	55	56
IND 39	5.52	0.16	0.05	2.42	1.45	0.00	0.18
IND 40	1.01	0.00	0.39	0.07	0.01	0.21	0.21
IND 41	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 42	3.79	15.22	0.45	0.73	1.00	0.02	0.04
IND 43	2.89	0.19	0.00	0.00	0.00	0.00	0.90
IND 44	4.16	0.14	5.02	10.94	7.43	19.51	0.98
IND 45	12.16	2.42	0.52	5.05	0.73	0.05	0.11
IND 46	429.53	128.34	0.37	12.52	2.27	0.05	0.77
IND 47	15.59	1.64	4.91	56.77	10.94	0.00	5.27
IND 48	0.40	0.01	0.24	1.18	0.55	0.07	0.10
IND 49	5.59	0.79	0.99	3.42	5.10	0.11	0.15
IND 50	585.34	1.21	6.60	1.94	2.49	0.15	1.06
IND 51	39.97	28.27	1.44	2.88	0.04	0.00	0.01
IND 52	0.00	0.00	40.50	594.99	19.24	91.75	0.20
IND 53	0.00	0.00	0.00	14.42	0.00	0.00	0.00
IND 54	0.00	0.00	0.00	0.00	5.23	0.00	0.00
IND 55	0.00	0.00	0.00	0.00	0.00	0.29	0.00
IND 56	0.00	0.00	0.00	0.00	0.00	0.00	4.51
IND 57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 58	2.99	0.39	4.05	0.00	0.00	0.00	0.95
IND 59	69.00	0.10	1.78	3.31	2.20	9.35	0.54
IND 60	0.05	0.00	0.00	0.04	0.01	0.00	0.09
IND 61	3.51	0.04	1.28	2.14	0.79	0.12	1.39
IND 62	4.11	0.32	3.10	24.02	9.97	1.12	1.59
IND 63	16.99	0.09	0.74	6.65	1.98	0.15	0.22
IND 64	0.03	0.00	0.00	0.00	0.00	0.00	0.00
IND 65	10.99	0.03	0.00	0.93	0.02	0.00	0.13
IND 66	5.80	0.17	1.32	10.67	6.64	0.13	0.25
IND 67	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 68	0.06	0.00	0.00	0.00	0.07	0.00	0.00
IND 69	0.02	0.00	0.00	0.00	0.00	0.00	0.00
IND 70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 71	0.75	0.13	0.23	1.63	5.65	0.23	0.36
IND 72	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 73	4.96	0.04	0.11	0.70	0.33	0.01	0.03
IND 74	11.97	1.74	7.28	11.54	2.31	1.50	0.27
IND 75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 76	0.04	0.02	0.02	0.03	0.23	0.00	0.04

IND 77	50	51	52	53	54	55	56
IND 78	0.00	0.00	0.00	0.04	0.00	0.00	2.22
IND 79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 90	232.90	43.70	139.62	547.44	153.99	57.51	13.12
IND 91	42.97	2.99	16.99	52.52	14.61	3.64	2.03
IND 92	60.20	0.16	0.27	1.00	0.33	2.03	0.03
IND 93	0.00	0.20	0.00	0.00	0.00	0.00	0.00
IND 94	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 95	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EURDEN	20.42	2.02	57.61	28.53	23.94	1.53	4.28
LABOR	369.39	19.99	104.77	357.39	784.34	0.00	102.57
PTI	0.00	0.00	0.00	0.00	0.00	0.00	0.20
PROFIT	743.07	45.19	430.89	971.24	284.48	59.75	91.30
TOTAL	3247.43	314.74	1528.92	5583.31	2144.91	408.99	306.56
CAPITAL	3367.15	101.05	2257.19	5928.61	2650.51	239.55	344.53
DEPRCATN	277.03	7.58	146.64	343.75	178.90	15.93	21.96

	57	59	60	61	62	63
IND 1	69.59	39.22	2.37	2.37	1.62	20.25
IND 2	31.99	2.42	0.04	0.02	0.31	2.99
IND 3	14.15	2.86	0.38	5.71	1.23	9.14
IND 4	84.04	4.21	4.94	5.17	9.03	10.50
IND 5	9.16	0.21	0.15	0.03	0.03	0.55
IND 6	270.40	39.13	2.15	3.99	4.11	14.71
IND 7	15.83	18.20	2.48	0.93	0.95	3.23
IND 8	170.97	45.14	34.50	16.12	44.37	52.41
IND 9	1.71	0.05	0.08	0.03	0.12	0.11
IND 10	13.58	3.74	2.26	1.29	4.40	4.52
IND 11	8.71	1.09	0.51	0.37	0.95	1.23
IND 12	0.79	0.04	0.01	0.02	0.02	0.09
IND 13	0.23	0.11	0.00	0.00	0.02	0.16
IND 14	0.51	0.04	0.00	0.00	0.00	0.10
IND 15	3.93	2.25	1.47	1.04	2.55	3.48
IND 16	1.48	0.90	0.39	0.12	0.31	0.55
IND 17	13.55	0.04	0.00	0.00	0.00	0.01
IND 18	3.11	0.21	0.11	0.05	0.07	0.79
IND 19	0.17	0.01	0.01	0.01	0.07	0.20
IND 20	0.68	0.09	12.53	6.39	15.14	11.48
IND 21	0.00	0.04	0.01	0.01	0.05	0.00
IND 22	0.01	0.00	0.01	0.00	0.01	0.01
IND 23	4.87	0.25	0.03	0.04	0.01	0.13
IND 24	23.69	0.08	0.01	0.00	0.00	0.03
IND 25	36.04	1.60	0.00	0.00	0.01	0.20
IND 26	1.97	0.05	0.00	0.05	0.00	0.22
IND 27	19.20	1.35	0.50	0.93	3.24	1.36
IND 28	7.19	0.24	0.03	0.15	0.05	0.13
IND 29	3.99	0.42	0.28	0.24	0.21	0.42
IND 30	66.08	20.41	0.00	0.00	0.00	0.00
IND 31	2.49	9.57	0.23	0.16	0.33	0.91
IND 32	17.00	2.26	9.59	3.27	19.54	27.29
IND 33	0.42	0.03	0.00	0.02	0.01	0.16
IND 34	196.68	100.73	25.53	13.89	39.13	46.42
IND 35	3.05	4.05	0.08	0.24	0.25	1.92
IND 36	0.49	11.06	0.01	0.03	1.70	1.16
IND 37	72.20	83.86	5.06	1.46	0.39	41.34
IND 38	2.36	2.41	18.96	8.14	0.25	35.55

	57	59	60	61	62	63
IND 39	62.19	5.74	4.56	1.52	6.27	79.26
IND 40	0.59	0.45	541.72	290.03	55.35	104.95
IND 41	6.40	0.00	0.00	0.00	0.00	145.47
IND 42	23.34	0.90	2.09	3.46	0.23	89.43
IND 43	32.53	4.75	1.59	1.05	3.27	22.26
IND 44	52.34	4.11	7.25	9.67	44.50	31.19
IND 45	18.34	28.15	18.92	3.94	18.91	37.47
IND 46	19.06	5.26	0.79	1.00	0.32	33.43
IND 47	46.69	45.13	1.97	2.07	10.31	25.90
IND 48	2.59	0.88	0.71	0.21	4.17	2.43
IND 49	5.11	6.52	0.38	1.20	3.97	16.16
IND 50	82.79	17.77	23.29	9.45	26.90	67.62
IND 51	1.70	0.31	0.14	0.41	0.07	14.58
IND 52	261.29	0.10	0.00	0.00	0.00	0.00
IND 53	0.00	0.00	0.00	0.00	0.00	0.00
IND 54	0.00	0.00	0.00	0.00	0.00	0.00
IND 55	0.00	0.00	0.00	0.00	0.00	0.00
IND 56	0.00	0.00	0.00	0.00	0.00	0.00
IND 57	626.93	0.00	0.00	0.00	0.00	0.00
IND 58	11.01	63.39	0.56	0.21	3.43	3.04
IND 59	17.99	5.04	2198.32	735.99	8092.59	1194.14
IND 60	0.05	0.14	530.93	5.39	180.95	45.36
IND 61	21.75	5.37	104.98	431.17	125.09	71.15
IND 62	25.90	6.64	3.07	4.24	25.40	11.42
IND 63	5.91	1.45	23.56	18.45	935.61	3209.07
IND 64	0.26	0.06	0.01	0.41	0.00	12.34
IND 65	1.41	0.45	0.09	0.21	0.05	566.17
IND 66	10.56	5.10	1.79	1.77	0.89	9.38
IND 67	0.01	0.00	0.00	0.09	0.01	1.43
IND 68	0.13	0.02	0.00	0.47	0.00	0.14
IND 69	0.00	0.00	0.00	0.00	0.00	0.00
IND 70	0.00	0.00	0.00	0.01	0.01	0.00
IND 71	12.69	0.46	0.50	0.99	0.82	14.96
IND 72	0.00	0.00	0.00	0.00	0.00	0.00
IND 73	1.51	0.47	0.72	0.99	1.22	4.35
IND 74	12.91	2.53	2.63	1.14	9.27	4.25
IND 75	0.00	0.00	0.00	0.00	0.00	0.00
IND 76	0.49	0.22	0.04	210.40	0.69	0.93
		4479.00				

LISTING FOR FILE SU\$DSA, PAGE 1 -- PRODUCTION

IND 77	57	59	60	61	62	63
	2.73	2827.53	8.59	102.37	0.03	942.49
IND 78	0.00	0.00	0.00	0.00	0.00	0.20
IND 79	574.26	406.12	62.31	37.40	136.24	134.55
IND 80	65.25	373.69	4.63	19.12	16.91	57.32
IND 91	40.94	10.34	0.12	5.00	2.90	95.55
IND 92	0.00	0.00	0.00	0.00	0.00	0.20
IND 93	0.00	0.00	0.00	0.00	0.00	0.20
IND 94	0.00	0.00	0.00	0.00	0.00	0.20
IND 95	0.00	0.00	0.00	0.00	0.00	0.20
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.20
BURDEN	68.15	2131.95	-97.48	-64.95	2749.63	-293.30
LABOR	1226.29	2186.12	556.57	264.13	2499.13	1249.72
PTI	0.00	0.00	0.00	0.00	0.00	0.20
PROFIT	1336.99	3363.74	385.58	390.27	2453.23	614.55
TOTAL	5851.43	35769.95	5115.75	2558.97	17555.93	8902.32
CAPITAL	4736.54	5660.80	1015.99	486.51	2061.70	1538.53
DEPRCATN	318.29	323.41	62.53	26.49	79.20	75.54

LISTING FOR FILE SU4DSA, PAGE 1 -- PRODUCTION

	64	65	66	67	68	69	70
IND 1	46.61	33.89	40.89	13.03	1.27	3.69	8.12
IND 2	0.02	0.23	0.00	16.91	2.00	0.04	0.08
IND 3	10.90	2.16	2.10	1.35	0.42	1.30	1.24
IND 4	14.43	15.76	41.19	17.95	1.52	44.93	2.95
IND 5	0.17	0.44	0.93	0.96	0.00	0.08	0.21
IND 6	206.91	16.29	26.61	60.50	3.53	15.03	2.29
IND 7	0.34	6.96	4.05	6.72	0.51	9.35	3.29
IND 8	24.30	93.09	79.20	22.51	47.94	29.95	18.24
IND 9	9.30	0.20	0.54	0.40	0.23	0.13	0.02
IND 10	6.66	2.52	2.61	2.72	1.31	2.25	2.57
IND 11	1.64	1.43	1.28	1.25	0.59	0.53	0.32
IND 12	0.13	0.06	0.04	0.06	0.00	0.21	0.02
IND 13	0.04	0.02	0.04	0.04	0.01	0.00	0.00
IND 14	0.00	0.02	0.01	0.01	0.00	0.00	0.00
IND 15	10.90	1.50	1.64	1.53	0.92	2.55	1.07
IND 16	3.18	0.54	1.02	1.39	0.10	0.73	0.20
IND 17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 18	1.64	3.90	2.41	1.13	0.03	0.45	0.13
IND 19	0.01	0.00	0.00	0.00	0.00	0.00	0.00
IND 20	0.00	0.03	0.02	0.01	0.00	0.15	0.21
IND 21	7.90	3.80	19.61	6.95	5.76	10.93	2.36
IND 22	0.00	0.00	0.00	0.01	0.00	0.10	0.01
IND 23	0.54	0.14	0.13	0.44	0.26	0.04	0.24
IND 24	0.03	0.01	0.01	0.09	0.00	0.03	0.00
IND 25	0.01	0.00	0.00	0.01	0.00	0.00	0.00
IND 26	40.10	0.07	0.14	0.09	0.01	0.02	0.02
IND 27	3.23	5.35	4.89	1.31	0.34	1.10	2.49
IND 28	0.95	0.32	0.29	2.15	0.07	0.07	0.05
IND 29	0.92	0.38	0.40	0.64	0.39	0.17	0.14
IND 30	54.75	16.95	20.15	22.91	7.75	15.95	15.29
IND 31	0.30	0.47	0.74	0.24	0.09	0.31	0.13
IND 32	60.13	10.29	9.37	0.76	1.14	5.35	3.55
IND 33	0.12	0.00	0.00	0.00	0.01	0.00	0.00
IND 34	305.46	53.31	60.06	112.57	25.06	45.33	16.67
IND 35	0.22	0.19	0.18	0.16	0.05	0.05	0.23
IND 36	0.03	0.08	0.05	0.96	0.00	0.00	0.02
IND 37	4.91	19.64	8.67	3.39	0.15	0.77	1.40
IND 38	0.28	0.05	0.09	0.05	0.01	0.09	0.17

	64	65	66	67	63	59	72
IND 39	0.78	8.58	1.56	0.57	0.35	0.17	0.66
IND 40	3.32	0.62	0.29	0.25	0.32	0.01	0.18
IND 41	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 42	0.90	0.92	1.04	0.66	0.31	0.63	1.33
IND 43	6.67	3.45	2.91	2.26	0.79	2.74	1.45
IND 44	12.28	2.56	6.00	2.34	1.52	1.43	0.59
IND 45	6.58	16.97	7.83	1.62	1.53	0.62	1.70
IND 46	4.85	3.58	2.43	1.18	0.19	1.75	0.25
IND 47	120.00	66.15	22.42	4.76	1.33	45.37	37.43
IND 48	0.34	0.85	0.64	0.26	0.10	0.92	0.27
IND 49	15.58	6.59	2.19	2.42	0.15	3.77	2.04
IND 50	56.72	24.71	58.30	9.13	2.55	25.60	79.29
IND 51	1.98	0.27	0.17	0.10	0.00	0.02	0.03
IND 52	0.00	0.00	0.00	0.00	0.20	0.00	0.20
IND 53	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 54	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 55	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 56	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 57	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 58	1.67	2.36	26.47	0.18	0.12	0.95	0.96
IND 59	11.29	6.58	9.86	18.29	5.29	7.79	1.51
IND 60	3.21	0.05	0.06	0.01	0.00	0.01	0.03
IND 61	144.54	11.35	1.12	3.26	0.70	2.39	0.99
IND 62	29.72	30.65	9.84	9.97	4.95	22.83	4.40
IND 63	8.84	6.81	3.15	1.25	0.47	3.79	0.84
IND 64	2990.50	5.13	0.07	0.00	1.05	0.01	10.95
IND 65	5.46	9579.58	5.06	1.16	0.30	30.92	66.17
IND 66	4.07	43.40	1957.35	0.33	0.26	110.52	330.41
IND 67	5.25	2.83	125.67	906.43	0.21	153.75	658.10
IND 68	4.25	19.65	2.86	0.00	36.23	3320.02	119.53
IND 69	0.19	6.37	0.01	0.00	0.00	38.45	0.04
IND 70	0.07	0.06	11.04	0.00	0.00	6.20	670.46
IND 71	59.39	7.14	5.29	1.00	0.34	207.31	193.19
IND 72	20.59	5.23	5.26	0.01	0.00	21.01	196.38
IND 73	30.57	35.17	25.73	7.51	0.79	97.44	303.37
IND 74	45.07	75.86	23.51	15.96	0.94	61.17	34.39
IND 75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 76	7.05	20.19	1.38	2332.63	7390.01	13.92	934.42

IND 77	64	65	66	67	68	69	70
IND 78	6.22	23077.59	9228.49	0.22	0.00	66.93	44.55
IND 79	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 80	283.98	135.14	95.04	99.46	178.54	142.53	112.59
IND 81	48.58	503.34	212.20	161.05	478.47	87.39	94.52
IND 82	1.89	10.53	3.71	1.86	0.50	6.25	49.71
IND 83	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.20
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.20
BURDEN	24.15	-3303.23	-332.42	-100.24	6.34	556.67	170.27
LABOR	1150.63	557.52	533.90	199.47	191.33	699.49	239.93
PTI	0.00	0.00	0.00	0.00	0.00	0.00	0.20
PROFIT	842.91	1364.76	2000.30	729.71	537.14	537.64	601.68
TOTAL	6790.06	32529.55	14400.11	4617.46	8942.11	6974.23	5044.79
CAPITAL	6328.94	2005.15	2310.87	2136.25	1223.72	1666.55	461.16
DEPRCATN	445.73	70.59	100.63	111.04	50.11	63.87	23.21

	71	72	73	74	75	76	77
IND 1	2.79	33.70	33.47	724.60	3239.66	23.91	25.15
IND 2	0.02	0.20	0.68	28.95	0.20	0.00	0.20
IND 3	0.55	1.51	3.77	56.13	319.77	19.30	15.39
IND 4	2.10	9.23	27.29	54.24	105.59	111.63	124.15
IND 5	0.37	0.10	0.74	3.91	19.55	0.75	0.22
IND 6	12.57	11.05	35.42	107.99	540.15	351.93	131.50
IND 7	2.70	1.83	8.23	40.30	15.90	1.44	2.98
IND 8	26.92	20.24	91.79	220.59	475.76	195.21	299.21
IND 9	0.08	0.13	0.11	4.49	30.81	0.00	0.00
IND 10	0.62	0.98	3.83	22.42	471.69	21.90	30.92
IND 11	0.32	0.44	1.67	5.12	830.72	3.51	5.43
IND 12	0.00	0.02	0.12	0.73	9.10	3.53	1.24
IND 13	0.01	0.00	0.05	0.21	2.20	0.00	0.00
IND 14	0.00	0.00	0.01	0.11	0.63	0.00	0.00
IND 15	0.76	1.13	4.57	3.84	85.14	37.39	11.52
IND 16	1.01	0.30	2.70	7.89	48.39	2.53	2.93
IND 17	0.00	0.00	0.19	1.06	221.49	0.00	0.00
IND 18	0.19	0.23	1.09	3.38	33.41	2.20	2.91
IND 19	0.00	0.00	0.00	0.57	11.72	0.00	0.00
IND 20	0.00	0.00	0.06	1.54	0.00	0.00	0.00
IND 21	3.90	2.56	10.16	6.95	0.00	0.00	0.00
IND 22	0.00	0.00	0.11	0.22	0.00	0.00	0.00
IND 23	0.13	0.14	0.23	1.07	62.24	0.00	0.00
IND 24	0.00	0.00	0.01	1.30	190.83	2.90	2.26
IND 25	0.00	0.00	0.01	0.85	9.54	0.00	0.00
IND 26	0.01	0.01	0.05	4.35	7.51	0.00	0.00
IND 27	0.21	1.59	3.11	29.56	302.21	125.33	79.36
IND 28	0.05	0.28	0.44	25.89	144.96	516.39	160.78
IND 29	0.14	0.14	0.65	4.20	13.41	8.69	3.73
IND 30	9.11	7.11	36.39	9.93	394.21	23.33	1.04
IND 31	0.10	0.11	0.68	1.19	1096.77	0.00	0.00
IND 32	1.98	23.69	34.55	4.52	503.41	219.15	301.40
IND 33	0.00	0.02	0.11	0.24	1615.96	0.00	0.00
IND 34	16.56	24.09	110.02	555.66	1688.68	1761.55	2157.36
IND 35	0.03	0.04	0.12	1.73	14.08	6.83	4.36
IND 36	0.11	0.01	1.89	5.92	0.00	40.34	6.25
IND 37	27.61	1.14	21.49	102.54	121.54	2031.41	22.25
IND 38	0.29	0.25	0.83	34.05	28.84	0.00	0.00

	71	72	73	74	75	77
IND 39	0.25	0.26	9.74	70.15	37.93	0.00
IND 40	0.02	0.22	5.08	54.65	2.69	0.00
IND 41	0.00	0.00	0.14	0.00	0.00	0.00
IND 42	59.12	0.48	32.57	19.68	23.99	0.00
IND 43	3.33	1.69	6.64	44.90	605.63	2.90
IND 44	0.94	1.77	5.59	2.95	296.94	11.19
IND 45	1.78	0.91	30.05	191.22	127.79	105.99
IND 46	0.90	1.14	1.62	29.25	428.78	242.31
IND 47	17.29	58.29	103.33	30.38	3101.73	99.94
IND 48	0.11	0.93	0.81	1.18	24.30	164.50
IND 49	0.37	2.56	7.76	2.75	194.87	6.24
IND 50	17.34	16.98	145.19	276.21	76.95	46.95
IND 51	0.99	0.56	3.04	0.00	3.67	10.04
IND 52	0.00	0.00	0.00	0.00	371.99	3.74
IND 53	0.00	0.00	0.00	0.00	5619.40	0.00
IND 54	0.00	0.00	0.00	0.00	2029.72	0.00
IND 55	0.00	0.00	0.00	0.00	352.43	0.00
IND 56	0.00	0.00	0.00	0.00	219.04	0.00
IND 57	0.00	0.00	0.00	0.00	3684.64	0.00
IND 58	2.68	30.59	97.04	23.28	360.78	0.00
IND 59	385.99	1.33	8.27	458.99	69.12	12.57
IND 60	0.01	0.07	0.30	16.78	0.00	34.23
IND 61	0.24	0.36	3.90	28.77	104.30	0.00
IND 62	2.14	4.33	13.51	20.46	361.90	23.83
IND 63	0.65	1.06	3.14	5.06	64.99	109.96
IND 64	13.42	0.44	3.15	17.60	0.00	47.23
IND 65	250.21	205.96	193.69	61.97	10.44	373.87
IND 66	47.93	3.27	32.89	15.95	6.71	268.79
IND 67	2.05	111.39	276.13	13.65	0.00	716.41
IND 68	0.00	7.41	55.09	724.51	0.99	101.21
IND 69	0.00	0.89	5.50	0.29	0.00	2290.25
IND 70	0.07	2.39	0.64	3.98	0.00	0.00
IND 71	1308.13	39.90	76.79	15.49	89.53	0.00
IND 72	0.26	122.43	192.75	3.16	0.00	48.70
IND 73	6.54	31.66	5224.21	33.16	0.00	0.00
IND 74	24.59	7.66	35.00	419.76	134.10	91.50
IND 75	0.00	0.00	0.00	0.00	2.00	3949.25
IND 76	1124.90	706.56	3585.57	2142.50	33.09	0.00
						12802.15
						5253.55

	71	72	73	74	75	76	77
IND 77	3.97	41.73	1.90	9.90	11.22	584.31	3473.13
IND 78	0.00	0.20	0.00	0.00	0.00	0.00	0.00
IND 79	86.95	52.73	376.21	337.01	5383.75	473.03	649.93
IND 80	86.79	57.15	301.66	211.91	444.39	505.33	1007.71
IND 81	0.10	8.96	9.63	44.90	157.94	38.82	81.50
IND 92	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 94	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 95	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	56.85	-32.13	25.34	104.17	907.20	728.11	-162.00
LABOR	83.03	251.06	799.27	2054.28	25977.53	25069.09	26896.23
PTI	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PROFIT	402.47	260.28	3495.67	2966.10	9480.02	10092.95	2301.16
TOTAL	4103.53	2144.50	15635.37	12517.96	73354.37	49093.61	59103.16
CAPITAL	534.70	1049.51	3743.62	12440.73	23674.00	46167.09	66497.97
DEPRCATN	27.53	46.38	198.09	682.56	2650.02	2830.50	2295.20

	78	79	80	81	82	83	84
IND 1	0.66	72.50	12.13	1.10	545.73	49.52	47.41
IND 2	0.00	0.00	0.00	0.00	25.07	0.00	0.00
IND 3	0.57	61.05	5.41	1.87	49.64	1.39	1.33
IND 4	0.56	113.90	77.06	3.92	3.49	419.01	265.69
IND 5	0.00	17.79	0.59	0.00	0.00	0.00	0.20
IND 6	3.73	903.23	91.88	10.95	49.22	239.48	151.85
IND 7	0.00	25.98	7.72	0.49	8.30	39.57	25.15
IND 8	1.90	916.51	264.54	20.16	43.10	309.73	429.43
IND 9	0.00	3.23	0.00	0.09	4.81	0.00	0.00
IND 10	0.00	46.27	24.36	1.54	66.51	34.65	15.43
IND 11	0.00	17.93	6.70	0.32	5.19	12.73	5.59
IND 12	0.00	0.29	0.00	0.01	9.32	0.00	0.00
IND 13	0.00	0.17	0.00	0.45	0.17	0.00	0.00
IND 14	0.00	0.00	0.00	0.00	0.15	0.00	0.00
IND 15	4.32	21.89	8.40	1.52	83.91	0.00	0.00
IND 16	0.00	11.47	4.56	1.57	186.57	40.25	17.92
IND 17	0.00	0.00	0.00	0.00	4.82	0.00	0.00
IND 18	0.00	6.43	10.60	0.17	32.72	34.29	15.26
IND 19	0.00	8.16	0.00	0.00	0.04	0.00	0.00
IND 20	0.00	0.00	0.00	0.00	0.46	0.00	0.00
IND 21	0.00	0.00	5.01	0.00	1.75	0.00	0.00
IND 22	0.00	0.00	0.04	0.00	0.00	0.00	0.00
IND 23	0.00	13.10	10.49	1.98	0.99	0.00	0.00
IND 24	0.00	0.25	0.55	0.02	9.14	0.00	0.00
IND 25	0.00	0.00	0.00	0.00	0.53	0.00	0.00
IND 26	0.00	170.92	0.00	0.00	1323.84	5.94	2.65
IND 27	5.63	364.48	37.97	8.61	25.87	65.30	29.07
IND 28	8.25	10.26	13.69	0.02	12.10	0.00	0.00
IND 29	0.00	16.04	1.29	0.03	13.27	1.90	0.84
IND 30	18.09	74.80	106.36	0.00	1517.31	120.42	53.51
IND 31	0.00	3.07	3.60	0.12	9.97	8.64	3.95
IND 32	0.75	25.04	93.79	0.17	58.12	56.79	25.29
IND 33	0.00	0.00	0.00	0.00	17.65	0.00	0.00
IND 34	-117.79	1472.83	743.27	16.28	89.19	162.13	101.57
IND 35	0.00	2.29	0.11	0.01	1.95	0.00	0.00
IND 36	0.00	0.00	0.00	0.00	9.37	0.00	0.00
IND 37	2.86	25.00	10.27	6.11	189.96	9.67	5.54
IND 38	0.00	0.00	0.02	0.01	7.59	0.31	0.21

	78	79	80	81	82	83	84
IND 39	0.00	0.59	2.21	0.14	11.07	1.39	0.34
IND 40	0.00	0.00	1.09	0.00	0.00	0.00	0.00
IND 41	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 42	0.00	9.35	2.50	0.28	51.79	0.00	0.00
IND 43	0.00	55.41	38.35	1.93	47.10	17.45	11.30
IND 44	0.00	560.21	19.04	1.20	75.51	49.14	33.22
IND 45	0.00	4.90	21.76	48.43	146.46	107.41	72.52
IND 46	1.96	38.31	16.74	3.52	0.00	22.29	66.90
IND 47	1.50	80.54	77.01	1.64	98.33	5.41	16.25
IND 48	0.00	8.31	26.82	2.34	10.76	4.35	13.09
IND 49	0.00	52.85	12.72	0.97	51.68	1.37	4.12
IND 50	0.23	13.65	125.53	294.75	111.54	11.74	35.26
IND 51	0.00	1.34	0.89	0.19	0.00	0.00	0.00
IND 52	0.00	0.00	0.00	0.00	0.45	0.00	0.00
IND 53	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 54	0.00	0.00	0.00	0.00	0.00	1.25	3.72
IND 55	0.00	0.00	0.00	0.00	0.20	0.00	0.00
IND 56	0.00	0.00	0.00	0.00	0.00	3.61	10.54
IND 57	0.00	0.00	0.00	0.00	0.31	14.43	42.51
IND 58	0.00	9.21	75.36	0.08	9.51	7.77	22.90
IND 59	0.00	46.32	54.07	0.92	31.90	12.20	24.78
IND 60	0.00	0.00	25.16	0.02	0.00	17.25	35.05
IND 61	0.00	42.37	16.05	1.45	8.95	2.25	4.58
IND 62	4.91	99.92	141.09	2.48	32.78	44.09	89.55
IND 63	0.00	28.94	33.10	57.08	2.03	5.31	10.78
IND 64	0.00	0.00	29.12	0.00	0.00	3.03	6.02
IND 65	0.00	0.00	238.75	0.22	0.00	12.74	25.34
IND 66	0.00	0.00	76.67	0.12	0.00	15.42	30.57
IND 67	0.00	0.00	23.19	0.00	0.00	2.29	4.54
IND 68	0.00	0.13	28.24	0.00	0.00	0.00	0.00
IND 69	0.00	0.00	42.04	0.00	0.00	2.90	5.77
IND 70	0.00	0.00	48.16	0.00	0.00	2.02	4.01
IND 71	0.00	11.92	23.09	0.90	0.00	0.00	0.00
IND 72	0.00	0.00	36.42	0.00	0.00	0.23	0.46
IND 73	0.00	0.80	178.69	0.04	0.00	1.71	3.41
IND 74	2.13	49.86	82.39	318.72	38.33	178.75	171.59
IND 75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 76	8.76	4.85	193.84	0.00	0.00	0.00	0.00

IND 77	78	79	80	81	82	83	84
	0.00	0.00	37.57	0.00	0.00	0.00	2.00
IND 79	0.00	0.00	0.00	51.44	0.00	0.00	0.00
IND 79	4.59	398.23	344.16	35.74	175.16	245.45	213.30
IND 90	2.10	126.97	51.02	15.98	341.09	99.13	76.59
IND 91	0.00	0.00	119.31	5.98	4.71	0.00	0.00
IND 92	0.00	0.00	0.00	0.00	1033.74	0.00	0.00
IND 93	0.00	0.00	0.00	0.00	33.06	0.00	0.00
IND 94	0.00	0.00	0.00	0.00	63.49	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	12.09	1566.97	-95.92	-0.41	49.34	593.53	515.91
LABOR	536.67	9912.52	11406.72	1040.67	7163.17	5831.29	4728.41
PTI	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PROFIT	37.38	12905.95	9911.09	1934.92	1480.66	5442.85	840.75
TOTAL	541.92	30239.57	25014.47	3799.15	15478.98	14351.05	8324.16
CAPITAL	726.00	54118.00	31135.00	447.00	8133.22	24034.17	221029.20
DEPRCATN	43.09	3489.29	1346.55	38.62	465.03	1239.87	789.99

	85	TOTAL
IND 1	0.00	33568.36
IND 2	0.00	2468.39
IND 3	0.00	1310.21
IND 4	0.00	9974.73
IND 5	0.00	3348.25
IND 6	0.00	5381.76
IND 7	0.00	1520.13
IND 8	0.00	11012.08
IND 9	0.00	952.37
IND 10	0.00	4399.29
IND 11	0.00	2014.73
IND 12	0.00	135.53
IND 13	0.00	39.97
IND 14	0.00	19.59
IND 15	0.00	910.16
IND 16	0.00	2984.41
IND 17	0.00	853.94
IND 18	0.00	789.68
IND 19	0.00	91.31
IND 20	0.00	200.13
IND 21	0.00	134.81
IND 22	0.00	2.71
IND 23	0.00	265.17
IND 24	0.00	400.44
IND 25	0.00	122.54
IND 26	0.00	2371.62
IND 27	0.00	4994.79
IND 28	0.00	4080.83
IND 29	0.00	580.97
IND 30	0.00	14378.61
IND 31	0.00	1312.39
IND 32	0.00	2793.38
IND 33	0.00	1580.81
IND 34	0.00	19250.37
IND 35	0.00	440.31
IND 36	0.00	494.22
IND 37	0.00	5107.77
IND 38	0.00	481.68

LISTING FOR FILE SUBDATA,

	85	TOTAL
IND 39	0.02	2039.88
IND 40	0.00	2536.55
IND 41	0.00	1514.29
IND 42	0.00	2007.08
IND 43	0.00	2232.91
IND 44	0.00	3964.74
IND 45	0.00	2746.30
IND 46	0.00	4269.76
IND 47	0.00	7590.95
IND 48	0.00	276.96
IND 49	0.00	767.08
IND 50	0.00	3100.29
IND 51	0.00	312.64
IND 52	0.00	1509.15
IND 53	0.00	5683.31
IND 54	0.00	2137.47
IND 55	0.00	403.54
IND 56	0.00	302.02
IND 57	0.00	5932.19
IND 58	0.00	1307.71
IND 59	0.00	33247.55
IND 60	0.00	979.04
IND 61	0.00	1539.04
IND 62	0.00	1933.70
IND 63	0.00	4968.00
IND 64	0.00	3491.49
IND 65	0.00	11532.94
IND 66	0.00	3825.09
IND 67	0.00	2208.99
IND 68	0.00	7137.34
IND 69	0.00	103.00
IND 70	0.00	750.19
IND 71	0.00	2945.03
IND 72	0.00	597.58
IND 73	0.00	6302.86
IND 74	0.00	6576.69
IND 75	0.00	0.00
IND 76	0.00	41278.00

IND 77	85	TOTAL
IND 78	0.00	40488.98
IND 79	0.00	524.96
IND 80	0.00	22504.80
IND 81	0.00	7571.09
IND 82	0.00	1758.59
IND 83	0.00	1033.74
IND 84	0.00	33.06
IND 85	0.00	63.49
UNT IMPS	0.00	0.00
BURDEN	0.00	0.20
LABOR	2325.41	10269.22
PTI	36687.59	215909.94
PROFIT	0.00	0.00
TOTAL	3699.56	137927.37
CAPITAL	42712.66	750504.25
DFPRCATN	0.00	743540.20
	0.00	29567.48

	1	2	3	4	5	6	7
IND 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 6	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 7	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 8	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 9	12.73	0.40	0.19	5.77	4.07	2.57	1.36
IND 10	124.51	3.67	2.83	26.22	15.93	1.93	3.56
IND 11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 12	44.66	0.39	2.69	2.73	1.03	0.74	0.57
IND 13	30.33	0.20	5.79	0.67	0.14	0.13	0.05
IND 14	8.99	0.22	0.05	0.18	0.00	0.00	0.00
IND 15	1.42	0.05	0.26	0.00	0.00	0.00	0.00
IND 16	22.72	0.73	0.62	12.39	7.02	2.35	1.72
IND 17	684.61	35.48	26.76	242.69	139.17	119.99	41.22
IND 18	84.91	7.57	1.06	21.93	16.50	6.83	19.72
IND 19	0.20	0.00	0.01	0.06	0.00	0.00	0.00
IND 20	0.03	0.20	0.03	0.05	0.00	0.00	0.00
IND 21	0.29	0.00	0.00	0.18	0.00	0.01	0.00
IND 22	0.21	0.00	0.01	0.02	0.01	0.01	0.00
IND 23	99.88	3.35	2.69	59.03	4.15	0.92	0.43
IND 24	53.63	7.21	0.14	26.42	4.00	0.25	0.39
IND 25	16.01	3.20	0.01	0.26	0.03	0.00	0.00
IND 26	12.58	0.20	0.05	1.47	0.51	0.05	0.25
IND 27	79.31	1.42	0.85	21.40	4.57	0.92	1.45
IND 28	2.59	0.03	0.06	5.69	0.55	0.11	0.28
IND 29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 30	28.77	0.51	2.74	20.49	10.99	3.22	12.95
IND 31	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 32	0.32	0.00	0.01	0.12	0.01	0.10	0.21
IND 33	0.11	0.00	0.00	0.00	0.00	0.05	0.21
IND 34	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 35	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 36	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 38	0.00	0.20	0.00	0.00	0.00	0.00	0.00

LISTING FOR FILE CUSD\$A,

PAGE 2 -- INVESTMENT

[illegible]

LISTING FOR FILE SU\$DSA, PAGE 2 -- INVESTMENT

IND 77	1	2	3	4	5	5	7
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	0.00	0.20	0.00	0.00	0.00	0.00	0.00
IND 80	0.76	0.00	0.02	1.49	0.04	0.04	0.02
IND 81	1.25	0.00	0.04	2.64	0.10	0.05	0.02
IND 82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 83	1.71	0.04	0.19	0.36	9.39	1.13	3.41
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	4139.92	135.23	123.82	1721.69	1933.61	425.23	601.96

LISTING FOR FILE 5U\$DSA, PAGE 2 -- INVESTMENT

	9	10	11	12	13	14
IND 1	0.00	0.00	0.00	0.00	0.00	2.00
IND 2	0.00	0.00	0.00	0.00	0.00	2.00
IND 3	0.00	0.00	0.00	0.00	0.00	2.00
IND 4	0.00	0.00	0.00	0.00	0.00	0.00
IND 5	0.00	0.00	0.00	0.00	0.00	2.00
IND 6	0.00	0.00	0.00	0.00	0.00	0.00
IND 7	0.00	0.00	0.00	0.00	0.00	0.00
IND 8	0.00	0.00	0.00	0.00	0.00	0.00
IND 9	261.04	0.51	2.30	0.02	0.01	0.00
IND 10	572.17	43.04	19.68	2.31	0.65	0.18
IND 11	0.00	0.00	0.00	0.00	0.00	0.00
IND 12	2.17	38.89	1.07	52.61	10.13	1.96
IND 13	0.21	20.09	0.35	1.39	0.59	2.16
IND 14	0.00	2.11	0.00	2.48	0.57	2.16
IND 15	0.00	0.81	0.08	1.02	0.11	2.01
IND 16	38.78	5.30	0.90	2.49	0.31	0.29
IND 17	0.65	0.45	0.70	0.18	0.05	0.03
IND 18	7.63	1.54	1.68	1.42	0.23	0.23
IND 19	0.02	0.02	0.00	0.00	0.00	0.00
IND 20	0.00	0.00	4.80	0.00	0.00	0.00
IND 21	0.00	0.00	0.00	0.22	0.00	0.00
IND 22	0.01	0.07	0.02	0.05	0.03	0.00
IND 23	18.39	5.49	1.09	6.36	1.82	0.44
IND 24	3.39	0.15	0.05	0.34	0.09	0.21
IND 25	0.06	0.02	0.00	0.21	0.02	0.00
IND 26	0.24	0.27	0.01	0.05	0.01	0.00
IND 27	9.64	1.17	0.34	1.04	0.30	0.07
IND 28	2.45	0.10	0.06	0.14	0.05	2.02
IND 29	0.00	0.00	0.00	0.00	0.00	0.00
IND 30	29.44	3.11	1.02	2.50	0.65	0.15
IND 31	0.00	0.00	0.00	0.00	0.00	0.00
IND 32	0.89	0.21	0.01	0.25	0.01	0.00
IND 33	0.42	0.00	0.00	0.00	0.00	0.00
IND 34	0.00	0.00	0.00	0.00	0.00	0.00
IND 35	0.00	0.00	0.00	0.00	0.00	0.00
IND 36	0.00	0.00	0.00	0.00	0.00	0.00
IND 37	0.00	0.00	0.00	0.00	0.00	0.00
IND 38	0.00	0.00	0.00	0.00	0.00	0.00

LISTING FOR FILE SU4DSA, PAGE 2 -- INVESTMENT

IND 77	9	0.00	10	0.00	11	0.00	12	0.00	13	0.00	14	0.00
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	1.27	0.23	0.14	0.02	0.02	0.10	0.10	0.02	0.02	0.02	0.00	0.00
IND 80	1.21	0.07	0.50	0.24	0.11	0.11	0.11	0.03	0.03	0.03	0.00	0.00
IND 81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 82	0.49	0.52	1.07	0.13	0.16	0.16	0.16	0.02	0.02	0.02	0.00	0.00
IND 83	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDFN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	3375.71	146.27	392.41	69.30	161.40	34.29	8.96					

LISTING FOR FILE SU4DSA, PAGE 2 -- INVESTMENT

IND 77	15	17	18	19	20	21
IND 78	0.00	0.00	0.00	2.00	0.00	0.20
IND 79	0.00	0.00	0.00	0.00	0.00	2.20
IND 80	0.03	0.11	0.06	0.21	0.03	0.21
IND 81	0.03	0.57	0.21	0.05	0.10	0.24
IND 82	0.00	0.00	0.00	0.00	0.00	0.20
IND 83	0.21	0.10	0.43	0.02	0.07	0.26
IND 84	0.00	0.00	0.20	0.20	0.00	0.20
IND 85	0.00	0.00	0.00	0.00	0.00	0.20
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.20
PURDFN	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	75.15	230.67	185.30	30.58	51.45	34.21

LISTING FOR FILE SU\$DSA, PAGE 2 -- INVESTMENT

LISTING FOR FILE SU#DSA.

PAGE 2 -- INVESTMENT.

PAGE 2 -- INVESTMENT.

[illegible]

LISTING FOR FILE SU\$DSA,

PAGE 2 -- INVESTMENT

IND 77	22	23	24	25	26	27	28
IND 78	0.00	0.00	0.00	0.00	0.20	0.00	0.00
IND 79	0.00	0.00	0.00	0.00	0.20	0.00	0.00
IND 80	0.00	0.02	0.03	0.00	0.45	0.41	0.16
IND 81	0.00	0.07	0.10	0.02	1.14	0.53	0.51
IND 82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 83	0.00	0.12	0.12	0.05	11.58	1.60	0.16
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	5.87	87.21	95.98	42.30	792.45	597.64	504.88

CONFIDENTIALITY AND SECURITY OF INFORMATION

[illegible]

IND 77	29	30	31	32	33	34	35
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 80	0.04	1.92	0.07	0.32	0.09	1.81	0.03
IND 81	0.12	4.35	0.12	0.59	0.15	3.62	0.25
IND 82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 83	0.10	1.93	0.12	0.74	0.25	2.40	0.05
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	111.12	2776.51	88.39	219.99	137.24	1600.49	36.93

LISTING FOR FILE SU\$DSA, PAGE 2 -- INVSTMENT

IND 77	36	37	38	39	40	41	42
	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	0.02	0.12	0.01	0.02	0.04	0.12	0.02
IND 80	0.04	0.14	0.01	0.02	0.05	0.15	0.03
IND 81	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 82	0.14	1.17	0.06	0.03	0.04	0.01	0.33
IND 83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PURDEN	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	219.00	1407.78	51.41	176.79	330.60	215.33	254.24

LISTING FOR FILE SU4DSA, PAGE 2 -- INVESTMENT

IND 77	43	44	45	46	47	48	49
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 80	0.01	0.10	0.12	0.53	0.34	0.15	0.23
IND 81	0.04	0.15	0.23	1.06	0.59	0.30	0.25
IND 82	0.00	0.20	0.00	0.00	0.00	0.00	0.00
IND 83	0.28	0.54	1.21	0.22	0.70	0.42	0.24
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 85	0.00	0.20	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.20
BURDEN	0.00	0.20	0.00	0.00	0.00	0.00	0.00
TOTAL	64.65	234.24	353.78	443.41	505.28	143.01	41.35

LISTING FOR FILE SU\$DSA,

[illegible]

	50	51	52	53	54	55	56
IND 39	0.00	0.20	0.00	0.00	2.20	0.00	0.20
IND 40	0.20	0.20	0.00	0.00	0.00	0.00	0.20
IND 41	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 42	0.00	0.00	0.00	0.00	0.20	0.00	0.20
IND 43	0.00	0.20	0.00	0.00	0.00	0.00	0.20
IND 44	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 45	0.01	0.00	0.01	0.02	0.01	0.00	0.20
IND 46	0.00	0.20	0.00	0.00	2.20	0.00	0.20
IND 47	0.00	0.00	0.01	0.01	0.00	0.00	0.20
IND 48	0.71	0.05	0.49	2.47	2.96	0.11	0.11
IND 49	0.00	0.20	0.00	0.00	0.00	0.00	0.20
IND 50	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 51	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 52	0.00	0.00	0.00	0.20	0.00	0.00	0.20
IND 53	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 54	0.00	0.00	0.00	0.20	2.20	0.00	0.20
IND 55	0.00	0.20	0.00	0.00	0.20	0.00	0.20
IND 56	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 57	0.00	0.00	0.00	0.00	2.20	0.00	0.20
IND 58	0.00	0.20	0.00	0.00	0.00	0.00	0.20
IND 59	0.01	0.00	0.02	0.03	0.01	0.00	0.20
IND 60	0.00	0.20	0.00	0.00	0.00	0.00	0.20
IND 61	0.00	0.20	0.00	0.00	0.00	0.00	0.20
IND 62	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 63	0.00	0.00	0.00	0.00	2.20	0.00	0.20
IND 64	0.20	0.20	0.00	0.00	0.00	0.00	0.20
IND 65	0.00	0.00	0.00	0.00	0.20	0.00	0.20
IND 66	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 67	0.00	0.00	0.00	0.00	0.20	0.00	0.20
IND 68	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 69	0.00	0.00	0.00	0.00	2.20	0.00	0.20
IND 70	0.00	0.20	0.00	0.00	0.00	0.00	0.20
IND 71	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 72	0.00	0.20	0.00	0.00	0.20	0.00	0.20
IND 73	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 74	0.00	0.00	0.04	0.06	0.02	0.00	0.20
IND 75	224.27	11.04	152.61	450.61	166.55	22.40	23.20
IND 76	0.20	0.20	0.00	0.00	0.20	0.00	0.20

LISTING FOR FILE SU4DSA, PAGE 2 -- INVESTMENT

IND 77	50	51	52	53	54	55	56
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 80	0.10	0.00	0.15	0.24	0.10	0.01	0.01
IND 81	0.15	0.01	0.25	0.40	0.16	0.02	0.01
IND 82	0.20	0.20	0.00	0.00	0.00	0.00	0.00
IND 83	1.65	0.02	0.13	0.11	0.12	0.01	0.03
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	406.21	15.94	229.31	614.95	264.90	30.05	34.32

LISTING FOR FILE CU\$DSA, PAGE 2 -- INVESTMENT

PAGE 2 -- INVESTMENT

LISTING FOR FILE SU\$DSA,

[illegible]

PAGE 2 -- INVESTMENT

	57	59	€0	€1	52	53
IND 39	0.00	0.00	0.00	0.00	0.00	0.00
IND 40	0.00	0.00	0.00	0.00	0.00	0.00
IND 41	0.00	0.00	0.00	0.00	0.00	0.00
IND 42	0.00	0.00	0.00	0.00	0.00	0.00
IND 43	0.00	0.00	0.00	0.00	0.00	0.00
IND 44	0.00	0.00	0.00	0.00	0.00	0.00
IND 45	0.00	0.00	0.00	0.00	0.00	0.00
IND 46	0.00	0.00	0.00	0.00	0.00	0.00
IND 47	0.00	0.00	0.00	0.00	0.00	0.00
IND 48	0.00	0.00	0.00	0.00	0.00	0.00
IND 49	0.00	0.00	0.00	0.00	0.00	0.00
IND 50	0.00	0.00	0.00	0.00	0.00	0.00
IND 51	0.00	0.00	0.00	0.00	0.00	0.00
IND 52	0.00	0.00	0.00	0.00	0.00	0.00
IND 53	0.00	0.00	0.00	0.00	0.00	0.00
IND 54	0.00	0.00	0.00	0.00	0.00	0.00
IND 55	0.00	0.00	0.00	0.00	0.00	0.00
IND 56	0.00	0.00	0.00	0.00	0.00	0.00
IND 57	0.00	0.00	0.00	0.00	0.00	0.00
IND 58	0.00	0.00	0.00	0.00	0.00	0.00
IND 59	0.00	0.00	0.00	0.00	0.00	0.00
IND 60	0.00	0.00	0.00	0.00	0.00	0.00
IND 61	0.00	0.00	0.00	0.00	0.00	0.00
IND 62	0.00	0.00	0.00	0.00	0.00	0.00
IND 63	0.00	0.00	0.00	0.00	0.00	0.00
IND 64	0.00	0.00	0.00	0.00	0.00	0.00
IND 65	0.00	0.00	0.00	0.00	0.00	0.00
IND 66	0.00	0.00	0.00	0.00	0.00	0.00
IND 67	0.00	0.00	0.00	0.00	0.00	0.00
IND 68	0.00	0.00	0.00	0.00	0.00	0.00
IND 69	0.00	0.00	0.00	0.00	0.00	0.00
IND 70	0.00	0.00	0.00	0.00	0.00	0.00
IND 71	0.00	0.00	0.00	0.00	0.00	0.00
IND 72	0.00	0.00	0.00	0.00	0.00	0.00
IND 73	0.00	0.00	0.00	0.00	0.00	0.00
IND 74	0.00	0.00	0.00	0.00	0.00	0.00
IND 75	0.00	0.00	0.00	0.00	0.00	0.00
IND 76	0.00	0.00	0.00	0.00	0.00	0.00

LISTING FOR FILE SU\$DSA, PAGE 2 -- INVESTMENT

IND 77	57	59	60	61	52	63
IND 78	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	0.00	0.00	0.00	0.00	0.00	0.00
IND 80	0.23	0.10	0.08	0.01	0.19	0.23
IND 81	0.39	0.15	0.15	0.24	0.33	0.17
IND 82	0.00	0.00	0.00	0.00	0.00	0.00
IND 83	0.49	0.45	0.09	0.44	0.74	0.10
IND 84	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	482.44	174.26	141.24	67.94	295.63	199.11

LISTING FOR FILE SU\$DSA, PAGE 2 -- INVESTMENT

IND 77	64	65	66	67	68	69	70
	0.00	0.20	0.00	0.00	0.00	0.00	0.20
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 79	0.19	0.13	0.12	0.04	0.01	0.04	0.20
IND 80	0.45	0.27	0.24	0.08	0.03	0.09	0.25
IND 81	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 82	2.36	0.39	0.34	0.08	0.15	0.47	0.13
IND 83	0.00	0.20	0.00	0.00	0.00	0.00	0.20
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.20
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.20
PURDFN	0.00	0.00	0.00	0.00	0.00	0.00	0.20
TOTAL	419.59	265.30	379.45	152.94	146.27	200.53	52.93

LISTING FOR FILE SU\$DSA, PAGE 2 -- INVESTMENT

PAGE 2 -- INVESTMENT

LISTING FOR FILE SU\$DSA,

[illegible]

IND 77	71	72	73	74	75	76	77
	0.00	0.20	0.00	0.20	0.20	0.00	0.20
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 79	0.01	0.02	0.14	0.51	2.65	339.50	721.26
IND 80	0.02	0.25	0.28	1.09	5.51	1203.12	1287.32
IND 91	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 92	0.16	0.29	1.40	1.19	7.65	0.00	0.20
IND 93	0.00	0.00	0.00	0.20	0.00	0.00	0.20
IND 94	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 95	0.00	0.00	0.00	0.00	0.20	0.00	0.20
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.20
BURDEN	0.00	0.00	0.00	0.00	0.00	0.00	0.20
TOTAL	60.58	123.04	430.05	1505.94	3045.74	7391.32	10595.58

LISTING FOR FILE SU\$DSA, PAGE 2 -- INVESTMENT

IND 77	78	79	80	81	82	83	84
	0.00	0.20	0.00	0.00	2.00	0.00	0.00
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	5.34	5.00	3.91	0.24	1.27	224.43	4.77
IND 80	18.96	1.03	6.34	2.75	16.24	56.89	82.71
IND 81	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 82	0.19	981.81	5.85	3.37	2.65	241.20	0.97
IND 83	0.00	0.20	0.00	0.00	2.20	0.00	0.20
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDFN	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	116.43	7349.79	4017.85	140.39	727.95	2726.61	16197.70

IND 1	85	TOTAL
IND 2	0.00	0.00
IND 3	0.00	0.00
IND 4	0.00	0.00
IND 5	0.22	0.20
IND 6	0.00	0.00
IND 7	0.00	0.00
IND 8	0.00	0.20
IND 9	0.00	0.00
IND 10	0.00	548.94
IND 11	0.00	1516.45
IND 12	0.00	26.34
IND 13	0.00	1512.11
IND 14	0.00	398.69
IND 15	0.00	94.47
IND 16	0.00	33.57
IND 17	0.00	521.54
IND 18	0.00	1456.45
IND 19	0.00	1155.05
IND 20	0.00	282.34
IND 21	0.00	533.22
IND 22	0.00	514.03
IND 23	0.00	58.62
IND 24	0.00	1222.49
IND 25	0.00	785.45
IND 26	0.00	337.66
IND 27	0.00	1920.96
IND 28	0.00	2089.69
IND 29	0.00	2536.75
IND 30	0.00	0.00
IND 31	0.00	2311.96
IND 32	0.00	0.00
IND 33	0.00	228.31
IND 34	0.00	1.46
IND 35	0.00	0.20
IND 36	0.00	0.00
IND 37	0.00	0.00
IND 38	0.00	0.00
IND 39	0.00	0.20

IND 39	85	TOTAL
IND 40	0.00	0.00
IND 41	0.00	0.00
IND 42	0.00	0.00
IND 43	0.00	0.00
IND 44	0.00	0.97
IND 45	0.00	7.43
IND 46	0.00	0.00
IND 47	0.00	4.44
IND 48	0.00	538.53
IND 49	0.00	0.02
IND 50	0.00	0.00
IND 51	0.00	0.00
IND 52	0.00	0.00
IND 53	0.00	0.00
IND 54	0.00	0.00
IND 55	0.00	0.00
IND 56	0.00	0.00
IND 57	0.00	0.00
IND 58	0.00	0.00
IND 59	0.00	4.61
IND 60	0.00	0.00
IND 61	0.00	0.00
IND 62	0.00	0.00
IND 63	0.00	0.00
IND 64	0.00	0.00
IND 65	0.00	0.00
IND 66	0.00	0.00
IND 67	0.00	0.00
IND 68	0.00	0.00
IND 69	0.00	0.00
IND 70	0.00	0.00
IND 71	0.00	0.00
IND 72	0.00	0.00
IND 73	0.00	0.00
IND 74	0.00	9.86
IND 75	0.00	59343.77
IND 76	0.00	0.00

IND 77	85	TOTAL
IND 78	0.00	0.00
IND 79	0.00	0.00
IND 80	0.00	1321.55
IND 81	0.00	2705.36
IND 82	0.00	0.00
IND 83	0.00	1200.23
IND 84	0.00	0.00
IND 85	0.00	0.00
UND IMPS	0.00	0.00
BURDFN	0.00	0.00
TOTAL	0.00	95423.44

LISTING FOR FILE SH\$USA, PAGE 3 -- CONSUMPTION

	1	2	3	4	5	6	TOTAL
IND 1	4.40	289.87	245.52	14.69	2.00	2.00	554.48
IND 2	0.00	14.56	0.00	0.00	0.00	0.00	14.56
IND 3	4.17	67.24	5.71	0.41	0.00	0.00	77.53
IND 4	161.96	58.59	28.39	240.38	0.00	0.00	489.30
IND 5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 6	112.93	1191.53	13.62	137.38	0.00	0.00	1455.56
IND 7	147.38	28.61	6.15	22.76	0.00	0.00	204.90
IND 8	1442.24	219.91	28.59	551.44	0.00	0.00	2242.07
IND 9	0.00	28.52	19.61	0.00	0.00	0.00	48.13
IND 10	417.02	559.96	42.79	30.73	47.44	0.00	1097.94
IND 11	4.94	27.46	7.23	9.42	0.00	0.00	49.05
IND 12	0.00	46.92	29.10	0.26	0.00	0.00	76.19
IND 13	0.00	1.29	9.97	0.93	0.00	0.00	12.19
IND 14	0.00	0.99	1.43	0.00	0.00	0.00	2.41
IND 15	0.00	20.41	38.99	0.00	0.00	0.00	59.30
IND 16	410.55	1237.86	336.47	187.30	8.54	0.00	2180.93
IND 17	0.00	9.40	31.04	4.97	0.00	0.00	45.32
IND 18	459.79	97.97	88.73	106.65	16.05	0.00	769.20
IND 19	0.00	1.28	0.00	0.00	2.87	0.00	4.15
IND 20	33.23	9.29	3.30	0.14	0.00	0.00	45.96
IND 21	0.00	18.37	6.23	9.91	0.00	0.00	34.51
IND 22	0.00	21.01	0.23	0.13	0.00	0.00	21.37
IND 23	0.00	31.94	0.00	0.00	0.00	0.00	31.94
IND 24	0.00	338.62	8.96	0.55	0.00	0.00	348.12
IND 25	0.00	22.31	4.68	0.18	0.00	0.00	27.17
IND 26	0.00	4969.31	30.33	17.95	0.00	0.00	5017.50
IND 27	891.94	483.90	329.75	143.78	3.07	0.00	1852.34
IND 28	0.00	52.52	141.75	23.28	0.00	0.00	217.55
IND 29	0.00	54.95	0.10	1.40	0.00	0.00	56.35
IND 30	1940.66	9268.96	177.63	135.10	-192.15	0.00	11330.10
IND 31	0.00	13.99	2.08	6.37	0.00	0.00	22.44
IND 32	872.03	87.98	93.77	56.72	28.97	0.00	1144.37
IND 33	0.00	72.42	0.00	0.00	0.00	0.00	72.42
IND 34	0.00	1234.99	51.04	180.52	0.00	0.00	1466.56
IND 35	0.00	2.11	0.00	0.00	0.00	0.00	2.11
IND 36	0.00	39.34	0.00	0.00	0.00	0.00	39.34
IND 37	26.37	1544.29	9.07	35.23	0.00	0.00	1714.96
IND 38	4.73	35.03	0.45	1.15	0.00	0.00	41.40

	1	2	3	4	5	6	TOTAL
IND 39	27.07	23.12	0.02	5.07	0.00	0.00	55.29
IND 40	0.00	19.16	0.00	0.00	-100.00	0.00	-90.34
IND 41	0.00	12.50	0.00	0.00	0.00	0.00	12.50
IND 42	0.00	231.29	0.00	0.00	-30.55	0.00	200.74
IND 43	3.50	21.11	20.03	63.50	0.00	0.00	108.33
IND 44	24.99	566.92	17.23	179.20	0.00	0.00	893.23
IND 45	528.04	1080.37	96.49	395.05	1.59	0.00	2101.55
IND 46	67.35	0.00	0.00	65.15	0.00	0.00	132.51
IND 47	18.29	96.22	6.61	15.99	3.09	0.00	140.09
IND 48	2918.43	28.64	252.27	173.95	51.44	0.00	3424.64
IND 49	283.64	18.65	1.99	4.01	12.23	0.00	320.50
IND 50	0.00	190.67	22.11	34.34	7.54	0.00	254.67
IND 51	0.00	0.88	0.00	0.00	0.00	0.00	0.88
IND 52	0.00	0.00	0.00	0.00	0.32	0.00	0.32
IND 53	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 54	2.69	0.00	0.00	3.65	0.50	0.00	6.93
IND 55	0.00	0.38	0.00	0.00	0.00	0.00	0.33
IND 56	7.69	0.00	0.00	10.44	0.00	0.00	18.13
IND 57	30.75	0.96	31.75	41.73	8.09	0.00	113.18
IND 58	450.26	19.09	15.74	22.48	13.29	0.00	520.35
IND 59	3657.39	239.99	3.19	155.07	-150.53	0.00	3905.29
IND 60	5173.95	0.00	0.00	218.01	314.56	0.00	5706.52
IND 61	676.07	181.99	0.44	28.55	180.31	0.00	1057.75
IND 62	15945.89	1113.66	20.44	555.92	208.96	0.00	17845.76
IND 63	6049.21	96.17	5.96	67.05	61.19	0.00	6279.58
IND 64	2312.97	77.92	1.44	359.11	114.43	0.00	2864.35
IND 65	18509.93	354.77	7.59	1507.20	321.60	0.00	20701.29
IND 66	8561.75	116.92	31.33	1924.20	-40.10	0.00	10494.10
IND 67	2929.90	1.22	1.42	270.11	-225.11	0.00	2977.44
IND 68	0.00	8.59	2576.70	0.00	-171.49	0.00	2413.20
IND 69	6430.74	56.79	1.58	343.46	-11.29	0.00	6871.28
IND 70	4503.62	3.73	1.23	239.68	-414.65	0.00	4332.55
IND 71	0.00	399.65	641.99	0.00	-112.73	0.00	929.91
IND 72	1540.22	555.98	0.17	27.32	-3.20	0.00	2120.39
IND 73	11425.33	16.07	0.99	202.66	-1270.23	0.00	10374.75
IND 74	4678.96	572.79	29.14	610.93	70.94	0.00	5962.76
IND 75	0.00	4589.08	4898.71	4522.78	0.00	0.00	14012.57
IND 76	9120.91	31.39	0.00	191.50	24.35	0.00	9359.12

LISTING FOR FILE SU\$DSA,

PAGE 3 -- CONSUMPTION

IND 77	1	2	3	4	5	6	TOTAL
IND 78	18358.19	33.53	0.00	629.81	3.94	0.00	19025.43
IND 79	0.00	16.96	0.00	0.00	0.00	0.00	16.96
IND 80	2710.55	2999.13	123.46	565.25	14.72	0.00	5413.29
IND 81	17219.82	924.96	420.52	427.20	23.43	0.00	19015.34
IND 82	1689.90	184.90	0.00	201.41	4.45	0.00	2080.66
IND 83	0.00	11920.78	27.67	15.38	0.00	0.00	11863.94
IND 84	13748.19	579.81	0.00	0.00	0.00	0.00	14329.20
IND 85	8181.91	78.76	0.00	0.00	0.00	0.00	8260.59
UND IMPS	0.00	7700.00	5273.14	29739.52	0.00	0.00	42712.66
TOTAL	174772.31	57469.39	16329.05	45635.19	-1173.22	0.00	293032.62

	1	2	TOTAL	3	4
IND 1	3004.24	-1092.06	1912.17	2565.12	-1162.33
IND 2	176.39	-25.45	150.93	134.32	-15.25
IND 3	24.48	-54.88	-30.40	20.45	-38.94
IND 4	470.46	-180.78	289.68	322.35	-160.27
IND 5	835.94	-82.84	753.10	1097.40	-111.19
IND 6	662.02	-78.28	583.94	566.21	-46.13
IND 7	30.30	-96.98	-56.63	69.43	-65.94
IND 8	137.93	0.00	137.93	75.99	0.00
IND 9	171.22	-91.37	79.85	217.44	-72.89
IND 10	87.16	-202.07	-114.91	100.41	-237.16
IND 11	23.51	-110.26	-36.65	29.47	-103.21
IND 12	91.12	-319.92	-228.80	111.53	-336.50
IND 13	15.59	-109.66	-93.98	19.04	-100.39
IND 14	1.86	-29.16	-27.30	2.32	-26.32
IND 15	13.55	-12.61	0.94	16.60	-12.49
IND 16	113.59	-310.74	-197.15	135.19	-353.59
IND 17	292.52	-193.85	98.77	355.17	-193.08
IND 18	86.59	-453.78	-367.20	101.44	-480.59
IND 19	15.91	-93.93	-78.02	17.25	-115.31
IND 20	25.35	-130.07	-104.73	29.69	-168.45
IND 21	18.75	-95.95	-77.19	20.92	-124.07
IND 22	5.97	-32.30	-26.33	5.53	-41.14
IND 23	80.33	-250.23	-169.90	93.58	-266.36
IND 24	93.40	-54.82	38.59	105.26	-75.99
IND 25	17.27	-37.76	-20.49	21.37	-36.26
IND 26	177.27	-533.97	-356.70	199.07	-617.23
IND 27	518.51	-443.76	74.75	619.72	-469.41
IND 28	209.21	-217.38	-8.66	242.91	-282.56
IND 29	40.09	-11.48	28.61	50.01	-12.67
IND 30	199.18	-505.99	-306.81	218.84	-563.23
IND 31	2.16	0.00	2.16	2.42	0.00
IND 32	4.04	-16.57	-12.52	4.62	-22.63
IND 33	0.00	-9.41	-9.41	0.00	-9.59
IND 34	0.00	-5.77	-5.77	0.00	-5.44
IND 35	3.05	-10.93	-7.88	3.72	-9.24
IND 36	161.92	-27.00	134.73	102.86	-10.03
IND 37	382.96	-381.98	0.89	216.58	-139.23
IND 38	11.39	-159.17	-147.29	6.28	-51.94

	1	2	TOTAL	3	4
IND 39	76.56	-291.53	-214.96	41.50	-87.37
IND 40	9.02	-582.13	-573.11	4.96	-170.59
IND 41	41.89	-208.75	-156.85	23.22	-74.79
IND 42	35.01	-211.70	-176.69	19.58	-72.23
IND 43	20.70	-335.19	-314.47	10.56	-140.96
IND 44	101.82	-126.86	-25.03	53.33	-44.73
IND 45	131.94	-544.52	-412.67	67.36	-344.91
IND 46	206.35	-9.23	197.12	243.23	-5.02
IND 47	473.16	-96.06	377.10	379.23	-43.45
IND 48	7.71	-513.90	-606.19	5.53	-224.25
IND 49	16.02	-25.34	-9.32	10.39	-15.72
IND 50	337.18	-444.70	-107.52	170.30	-193.15
IND 51	7.22	-6.00	1.22	5.23	-1.99
IND 52	35.75	-15.29	20.46	23.95	-5.91
IND 53	0.00	0.00	0.00	0.00	0.00
IND 54	0.50	0.00	0.50	0.57	0.00
IND 55	4.57	0.00	4.57	4.90	0.00
IND 56	0.33	-13.92	-13.59	0.33	-6.75
IND 57	56.97	-150.80	-93.93	91.33	-77.23
IND 58	8.22	-68.07	-59.85	7.01	-33.97
IND 59	1280.35	-2567.63	-1387.28	440.60	-689.02
IND 60	24.97	-1494.77	-1459.81	9.27	-273.44
IND 61	68.93	-217.05	-148.12	24.77	-132.93
IND 62	20.46	-2144.01	-2123.55	7.03	-526.94
IND 63	45.13	-2290.38	-2245.25	19.53	-603.09
IND 64	445.24	-21.52	423.72	98.05	-14.07
IND 65	341.98	-46.32	295.56	54.53	-26.29
IND 66	132.57	-51.66	90.92	37.08	-26.96
IND 67	25.08	-594.07	-569.00	5.19	-279.79
IND 68	105.34	-714.38	-609.05	45.58	-128.22
IND 69	0.00	0.00	0.00	0.00	0.00
IND 70	16.41	-54.48	-38.07	7.02	-37.69
IND 71	389.53	-59.96	329.57	120.09	-33.22
IND 72	27.52	-500.98	-573.46	11.06	-209.44
IND 73	234.62	-1276.94	-1042.31	62.01	-1073.56
IND 74	322.59	-353.93	-31.35	91.18	-94.39
IND 75	0.00	0.00	0.00	0.00	0.00
IND 76	384.55	-1948.04	-1563.49	324.12	-1059.52

	1	2	TOTAL	3	4
IND 77	286.92	-598.23	-411.31	95.77	-173.12
IND 78	0.00	0.00	0.00	0.00	0.00
IND 79	0.00	0.00	0.00	0.00	0.00
IND 80	0.00	-4277.80	-4277.80	0.00	-4407.90
IND 81	63.34	-103.44	-40.10	67.56	-51.45
IND 82	1760.25	-379.10	1391.15	1999.15	-425.25
IND 83	0.00	0.00	0.00	0.00	0.00
IND 84	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00
TOTAL	15752.11	-30202.09	-14449.99	12551.24	-19351.43

	1	2	TOTAL	3	4
IND 39	76.56	-291.53	-214.96	41.50	-87.37
IND 40	9.02	-582.13	-573.11	4.96	-172.59
IND 41	41.89	-208.75	-156.85	23.22	-74.79
IND 42	35.01	-211.70	-176.69	19.58	-72.23
IND 43	20.70	-335.19	-314.47	10.56	-140.96
IND 44	101.82	-126.86	-25.03	53.33	-44.73
IND 45	131.94	-544.52	-412.67	67.36	-344.91
IND 46	206.35	-9.23	197.12	243.23	-5.02
IND 47	473.16	-96.26	377.10	379.23	-43.45
IND 48	7.71	-613.90	-606.19	5.53	-224.26
IND 49	16.02	-25.34	-9.32	10.39	-15.72
IND 50	337.18	-444.70	-107.52	170.30	-193.15
IND 51	7.22	-6.00	1.22	5.23	-1.99
IND 52	35.75	-15.29	20.46	23.95	-5.91
IND 53	0.20	0.20	0.00	0.00	0.00
IND 54	0.50	0.00	0.50	0.57	0.00
IND 55	4.57	0.00	4.57	4.90	0.00
IND 56	0.33	-13.92	-13.59	0.33	-6.75
IND 57	56.97	-150.80	-93.93	91.33	-77.23
IND 58	8.22	-68.07	-59.85	7.01	-33.97
IND 59	1280.35	-2567.63	-1387.28	440.60	-689.02
IND 60	24.97	-1494.77	-1469.81	9.27	-273.44
IND 61	68.93	-217.05	-148.12	24.77	-132.93
IND 62	20.46	-2144.01	-2123.55	7.03	-526.94
IND 63	45.13	-2290.38	-2245.25	19.53	-609.09
IND 64	445.24	-21.52	423.72	98.05	-14.27
IND 65	341.98	-46.32	295.56	54.53	-26.29
IND 66	132.57	-51.66	80.92	37.08	-26.06
IND 67	25.08	-594.07	-569.00	5.19	-279.79
IND 68	105.34	-714.38	-609.05	45.58	-128.22
IND 69	0.00	0.00	0.00	0.00	0.00
IND 70	16.41	-54.48	-38.07	7.02	-37.69
IND 71	389.53	-59.96	329.57	120.09	-33.22
IND 72	27.52	-500.98	-573.46	11.06	-209.44
IND 73	234.62	-1276.94	-1042.31	62.01	-1073.56
IND 74	322.59	-353.93	-31.35	91.18	-94.39
IND 75	0.00	0.00	0.00	0.00	0.00
IND 76	384.55	-1948.24	-1563.49	324.12	-1059.92

	1	2	TOTAL	3	4
IND 1	3004.24	-1092.06	1912.17	2565.12	-1162.33
IND 2	176.39	-25.45	150.93	134.32	-15.25
IND 3	24.49	-54.98	-30.40	20.45	-38.94
IND 4	470.46	-180.79	299.68	322.35	-160.27
IND 5	835.94	-82.94	753.10	1097.40	-111.18
IND 6	662.02	-78.28	583.94	566.21	-46.13
IND 7	30.30	-96.99	-56.63	69.43	-65.94
IND 8	137.93	0.00	137.93	75.99	0.00
IND 9	171.22	-91.37	79.85	217.44	-72.89
IND 10	87.16	-202.07	-114.91	100.41	-237.16
IND 11	23.51	-110.26	-36.65	29.47	-103.01
IND 12	91.12	-319.92	-228.80	111.63	-336.50
IND 13	15.69	-109.66	-93.93	19.04	-100.39
IND 14	1.86	-29.16	-27.30	2.32	-26.32
IND 15	13.55	-12.61	0.94	16.60	-12.49
IND 16	113.59	-310.74	-197.15	135.19	-353.59
IND 17	292.62	-193.95	98.77	355.17	-193.03
IND 18	86.59	-453.78	-367.20	101.44	-480.59
IND 19	15.91	-93.93	-78.02	17.25	-115.31
IND 20	25.35	-130.07	-104.73	29.69	-168.45
IND 21	18.76	-95.95	-77.19	20.92	-124.07
IND 22	5.97	-32.30	-26.33	5.53	-41.14
IND 23	80.33	-250.23	-169.90	93.58	-266.36
IND 24	93.40	-54.82	38.59	105.26	-75.99
IND 25	17.27	-37.76	-20.49	21.37	-36.26
IND 26	177.27	-533.97	-356.70	199.07	-617.23
IND 27	518.51	-443.76	74.75	618.72	-469.41
IND 28	209.21	-217.38	-8.66	242.91	-282.56
IND 29	40.09	-11.48	28.61	50.01	-12.67
IND 30	199.18	-505.99	-306.81	218.94	-563.03
IND 31	2.16	0.00	2.16	2.42	0.00
IND 32	4.04	-16.57	-12.52	4.62	-22.63
IND 33	0.00	-9.41	-9.41	0.00	-9.59
IND 34	0.00	-5.77	-5.77	0.00	-5.44
IND 35	3.05	-10.93	-7.89	3.72	-9.24
IND 36	161.92	-27.29	134.73	102.86	-10.03
IND 37	382.86	-381.98	0.89	216.58	-139.23
IND 38	11.99	-159.17	-147.28	6.28	-51.94

IND 77	1	2	3	4	5	6	TOTAL
IND 78	18358.19	33.53	0.00	629.91	3.94	0.00	19025.43
IND 79	0.00	16.96	0.00	0.00	0.00	0.00	16.96
IND 80	2710.55	2999.13	123.46	565.25	14.72	0.00	5413.29
IND 81	17219.92	924.96	420.52	427.20	23.43	0.00	19015.34
IND 82	1689.90	184.90	0.00	201.41	4.45	0.00	2080.66
IND 83	0.00	11920.78	27.67	15.38	0.00	0.00	11863.94
IND 84	13746.19	579.81	0.00	0.00	0.00	0.00	14329.20
IND 85	8181.91	78.76	0.00	0.00	0.00	0.00	8260.59
UND IMPS	0.00	7700.00	5273.14	29739.52	0.00	0.00	42712.66
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	174772.31	57469.39	16329.05	45635.19	-1173.22	0.00	293032.62

LISTING FOR FILE SU\$DSA, PAGE 3 -- CONSUMPTION

	1	2	3	4	5	6	TOTAL
IND 39	27.07	23.12	0.02	5.07	0.00	0.00	55.29
IND 40	0.00	19.16	0.00	0.00	-100.00	0.00	-90.34
IND 41	0.00	12.50	0.00	0.00	0.00	0.00	12.50
IND 42	0.00	231.29	0.00	0.00	-30.55	0.00	200.74
IND 43	3.60	21.11	20.03	63.60	0.00	0.00	109.33
IND 44	24.99	566.82	17.23	179.20	0.00	0.00	899.23
IND 45	528.04	1080.37	96.49	395.05	1.59	0.00	2101.55
IND 46	67.35	0.00	0.00	65.15	0.00	0.00	132.51
IND 47	18.29	96.22	6.61	15.99	3.08	0.00	140.09
IND 48	2918.43	28.64	252.27	173.95	51.44	0.00	3424.64
IND 49	283.64	18.65	1.99	4.01	12.23	0.00	320.50
IND 50	0.00	190.67	22.11	34.34	7.54	0.00	254.67
IND 51	0.00	0.88	0.00	0.00	0.00	0.00	0.98
IND 52	0.00	0.00	0.00	0.00	0.32	0.00	0.32
IND 53	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 54	2.69	0.00	0.00	3.65	0.50	0.00	6.93
IND 55	0.00	0.38	0.00	0.00	0.00	0.00	0.38
IND 56	7.69	0.00	0.00	10.44	0.00	0.00	18.13
IND 57	30.75	0.86	31.75	41.73	8.09	0.00	113.18
IND 58	450.26	19.09	15.74	22.48	13.29	0.00	520.35
IND 59	3657.39	239.99	3.19	155.07	-150.53	0.00	3905.09
IND 60	5173.95	0.00	0.00	218.01	314.56	0.00	5706.52
IND 61	676.07	181.99	0.44	28.55	180.31	0.00	1067.75
IND 62	15945.89	1113.66	20.44	556.92	208.96	0.00	17845.76
IND 63	6049.21	96.17	5.96	67.05	61.19	0.00	6279.58
IND 64	2312.97	77.92	1.44	359.11	114.43	0.00	2964.35
IND 65	18509.93	354.77	7.59	1507.20	321.60	0.00	20701.09
IND 66	8561.75	116.92	31.33	1924.20	-40.10	0.00	10494.10
IND 67	2929.90	1.22	1.42	270.11	-225.11	0.00	2977.44
IND 68	0.00	8.59	2576.70	0.00	-171.49	0.00	2413.30
IND 69	6480.74	56.79	1.58	343.46	-11.29	0.00	6871.28
IND 70	4503.62	3.73	1.23	238.68	-414.65	0.00	4332.55
IND 71	0.00	399.65	641.99	0.00	-112.73	0.00	929.91
IND 72	1540.22	555.88	0.17	27.32	-3.20	0.00	2120.39
IND 73	11425.33	16.07	0.99	202.66	-1270.23	0.00	10374.75
IND 74	4678.96	572.79	29.14	610.93	70.94	0.00	5962.76
IND 75	0.00	4589.08	4898.71	4522.78	0.00	0.00	14010.57
IND 76	9120.91	31.39	0.00	191.56	24.95	0.00	9369.12

	1	2	3	4	5	6	TOTAL
IND 1	4.40	289.87	245.52	14.69	2.00	3.00	554.48
IND 2	0.00	14.56	0.00	0.00	0.00	0.00	14.56
IND 3	4.17	67.24	5.71	0.41	0.00	0.00	77.53
IND 4	161.96	58.59	28.39	240.38	0.00	0.00	489.30
IND 5	0.00	0.00	0.00	0.00	2.00	0.00	0.20
IND 6	112.83	1191.53	13.62	137.38	0.00	0.00	1455.56
IND 7	147.38	28.61	6.15	22.76	0.00	0.00	204.90
IND 8	1442.24	219.91	28.59	551.44	0.00	0.00	2242.07
IND 9	0.00	28.52	19.61	0.00	0.00	0.00	48.13
IND 10	417.02	559.96	42.79	30.73	47.44	0.00	1397.94
IND 11	4.94	27.46	7.23	9.42	0.00	0.00	49.05
IND 12	0.00	46.92	29.10	0.26	0.00	0.00	76.19
IND 13	0.00	1.29	9.97	0.93	0.00	0.00	12.19
IND 14	0.00	0.99	1.43	0.00	0.00	0.00	2.41
IND 15	0.00	20.41	39.89	0.00	0.00	0.00	59.30
IND 16	410.55	1237.86	336.47	187.30	8.54	0.00	2180.93
IND 17	0.00	9.40	31.04	4.97	0.00	0.00	45.32
IND 18	459.79	97.97	88.73	106.65	16.05	0.00	769.20
IND 19	0.00	1.28	0.00	0.00	2.67	0.00	4.15
IND 20	33.23	9.29	3.30	0.14	0.00	0.00	45.96
IND 21	0.00	18.37	6.23	9.91	0.00	0.00	34.51
IND 22	0.00	21.01	0.23	0.13	0.00	0.00	21.37
IND 23	0.00	31.94	0.00	0.00	0.00	0.00	31.94
IND 24	0.00	338.62	8.96	0.55	0.00	0.00	349.12
IND 25	0.00	22.31	4.68	0.18	0.00	0.00	27.17
IND 26	0.00	4969.31	30.33	17.35	0.00	0.00	5017.50
IND 27	891.94	483.80	329.75	143.78	3.07	0.00	1952.34
IND 28	0.00	52.52	141.75	23.28	0.00	0.00	217.55
IND 29	0.00	54.95	0.10	1.40	0.00	0.00	56.35
IND 30	1940.66	9268.96	177.63	135.10	-192.15	0.00	11330.10
IND 31	0.00	13.99	2.08	6.37	0.00	0.00	22.44
IND 32	872.03	87.98	99.77	56.72	28.97	0.00	1144.37
IND 33	0.00	72.42	0.00	0.00	0.00	0.00	72.42
IND 34	0.00	1234.99	51.04	180.52	0.00	0.00	1466.56
IND 35	0.00	2.11	0.00	0.00	0.00	0.00	2.11
IND 36	0.00	39.34	0.00	0.00	0.00	0.00	39.34
IND 37	26.37	1544.29	9.07	35.23	0.00	0.00	1714.96
IND 38	4.73	35.03	0.49	1.15	0.00	0.00	41.40

IND 77	85	TOTAL
IND 78	0.00	0.00
IND 79	0.00	0.00
IND 80	0.00	1321.65
IND 81	0.00	2705.36
IND 82	0.00	0.00
IND 83	0.00	1200.23
IND 84	0.00	0.00
IND 85	0.00	0.00
UND IMPS	0.00	0.00
BURDEN	0.00	0.00
TOTAL	0.00	95423.44

IND 39	85	TOTAL
IND 40	0.00	0.20
IND 41	0.00	0.00
IND 42	0.00	0.20
IND 43	0.00	0.20
IND 44	0.00	0.00
IND 45	0.00	0.97
IND 46	0.00	7.43
IND 47	0.00	0.00
IND 48	0.00	4.44
IND 49	0.00	538.53
IND 50	0.00	0.02
IND 51	0.00	0.00
IND 52	0.00	0.20
IND 53	0.00	0.00
IND 54	0.00	0.20
IND 55	0.00	0.00
IND 56	0.00	0.00
IND 57	0.00	0.20
IND 58	0.00	0.00
IND 59	0.00	4.61
IND 60	0.00	0.00
IND 61	0.00	0.30
IND 62	0.00	0.00
IND 63	0.00	0.00
IND 64	0.00	0.00
IND 65	0.00	0.00
IND 66	0.00	0.20
IND 67	0.00	0.00
IND 68	0.00	0.00
IND 69	0.00	0.00
IND 70	0.00	0.00
IND 71	0.00	0.00
IND 72	0.00	0.20
IND 73	0.00	0.00
IND 74	0.00	9.86
IND 75	0.00	59343.77
IND 76	0.00	0.00

	85	TOTAL
IND 1	0.00	0.00
IND 2	0.00	0.00
IND 3	0.00	0.00
IND 4	0.00	0.00
IND 5	0.00	0.00
IND 6	0.00	0.00
IND 7	0.00	0.00
IND 8	0.00	0.00
IND 9	0.00	548.94
IND 10	0.00	1516.45
IND 11	0.00	26.34
IND 12	0.00	1512.11
IND 13	0.00	398.59
IND 14	0.00	94.47
IND 15	0.00	33.57
IND 16	0.00	521.54
IND 17	0.00	1456.45
IND 18	0.00	1155.05
IND 19	0.00	282.34
IND 20	0.00	533.22
IND 21	0.00	514.03
IND 22	0.00	58.62
IND 23	0.00	1222.49
IND 24	0.00	785.45
IND 25	0.00	337.66
IND 26	0.00	1920.96
IND 27	0.00	2089.69
IND 28	0.00	2536.75
IND 29	0.00	0.00
IND 30	0.00	2311.96
IND 31	0.00	0.00
IND 32	0.00	228.31
IND 33	0.00	1.46
IND 34	0.00	0.00
IND 35	0.00	0.00
IND 36	0.00	0.00
IND 37	0.00	0.00
IND 38	0.00	0.00

LISTING FOR FILE SU\$DSA, PAGE 2 -- INVESTMENT

IND 77	78	79	80	81	82	83	84
	0.00	0.20	0.00	0.00	2.00	0.00	0.20
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	5.34	5.00	3.91	0.24	1.27	224.49	0.00
IND 80	18.96	1.03	6.34	0.75	16.04	56.89	4.77
IND 81	0.00	0.00	0.00	0.00	0.00	0.00	82.71
IND 82	0.19	981.81	5.85	3.37	2.65	0.00	0.20
IND 83	0.00	0.20	0.00	0.00	2.00	241.20	0.97
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.20	0.00	0.00	0.00	0.00	0.00
BURDFN	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	116.43	7349.79	4017.85	140.39	727.95	2726.61	16197.70

PAGE 2 -- INVESTMENT

[illegible]

LISTING FOR FILE SU\$DSA, PAGE 2 -- INVESTMENT

IND 77	71	72	73	74	75	76	77
	0.00	0.20	0.00	0.00	0.00	0.00	0.00
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	0.01	0.02	0.14	0.51	2.65	338.50	721.26
IND 80	0.02	0.25	0.28	1.09	5.51	1203.12	1287.32
IND 91	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 92	0.16	0.29	1.40	1.19	7.65	0.00	0.00
IND 93	0.00	0.00	0.00	0.20	0.00	0.00	0.00
IND 94	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 95	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	60.58	123.04	430.05	1505.94	3045.74	7391.32	10595.58

PAGE 2 -- INVESTMENT

[illegible]

LISTING FOR FILE SU\$DSA, PAGE 2 -- INVESTMENT

IND 77	64	65	66	67	63	59	72
IND 78	0.00	0.20	0.00	0.00	0.00	0.00	0.20
IND 79	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 80	0.19	0.13	0.12	0.04	0.01	0.04	0.22
IND 81	0.45	0.27	0.24	0.08	0.23	0.09	0.25
IND 82	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 83	2.36	0.39	0.34	0.08	0.15	0.47	0.13
IND 84	0.00	0.20	0.00	0.00	0.20	0.00	0.20
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.20
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	0.00	0.00	0.00	0.00	0.00	0.00	0.20
TOTAL	419.59	265.30	379.45	152.94	146.27	200.53	52.33

	64	65	66	67	69	70
IND 1	0.00	0.20	0.00	0.00	0.00	0.20
IND 2	0.00	0.00	0.00	0.00	0.00	0.00
IND 3	0.00	0.00	0.00	0.00	0.00	0.00
IND 4	0.00	0.00	0.00	0.00	0.00	0.00
IND 5	0.00	0.20	0.00	0.00	0.00	0.20
IND 6	0.00	0.00	0.00	0.00	0.00	0.00
IND 7	0.00	0.00	0.00	0.00	0.00	0.00
IND 8	0.00	0.20	0.00	0.00	0.00	0.00
IND 9	0.79	0.74	1.63	2.69	0.21	0.29
IND 10	0.27	3.06	6.74	11.13	0.97	0.38
IND 11	0.20	0.00	0.00	0.00	0.00	0.20
IND 12	0.35	0.93	0.80	0.53	0.19	0.13
IND 13	0.08	0.11	0.09	0.07	0.00	0.01
IND 14	0.00	0.24	0.00	0.01	0.00	0.20
IND 15	0.00	0.00	0.00	0.00	0.00	0.20
IND 16	0.55	2.13	2.61	2.13	0.67	0.31
IND 17	0.00	0.20	0.00	0.00	0.00	0.20
IND 18	1.11	10.77	10.76	3.44	0.65	0.75
IND 19	0.01	0.09	0.00	0.00	0.13	0.09
IND 20	0.06	0.20	0.08	0.00	0.12	0.21
IND 21	3.96	34.47	93.29	39.32	39.23	15.39
IND 22	0.00	0.12	0.32	0.01	0.02	0.38
IND 23	1.62	1.57	1.06	4.32	0.24	0.32
IND 24	0.24	0.14	0.08	0.15	0.00	0.30
IND 25	0.00	0.01	0.00	0.03	0.00	0.00
IND 26	195.63	0.28	0.19	0.04	0.01	0.20
IND 27	58.13	3.92	9.80	2.16	0.64	0.21
IND 28	0.42	0.75	0.99	1.01	0.14	0.25
IND 29	0.00	0.20	0.00	0.00	0.00	0.00
IND 30	5.64	2.71	3.69	1.26	0.92	0.31
IND 31	0.00	0.20	0.00	0.00	0.00	0.30
IND 32	0.05	0.28	0.07	0.02	0.02	0.21
IND 33	0.01	0.01	0.01	0.00	0.00	0.20
IND 34	0.00	0.00	0.00	0.00	0.00	0.20
IND 35	0.00	0.20	0.00	0.00	0.00	0.20
IND 36	0.00	0.00	0.00	0.00	0.00	0.20
IND 37	0.00	0.20	0.00	0.00	0.00	0.20
IND 38	0.00	0.20	0.00	0.00	0.00	0.20

LISTING FOR FILE SU\$DSA, PAGE 2 -- INVESTMENT

IND 77	57	59	59	60	61	52	63
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 80	0.23	0.10	0.13	0.08	0.01	0.13	0.23
IND 81	0.39	0.15	0.25	0.15	0.04	0.33	0.17
IND 82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 83	0.49	0.45	0.95	0.09	0.44	0.74	0.13
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	482.44	174.26	692.37	141.24	67.94	295.63	199.11

LISTING FOR FILE SU\$DSA, PAGE 2 -- INVESTMENT

IND 77	50	51	52	53	54	55	56
IND 78	0.00	0.20	0.00	0.00	0.00	0.00	0.20
IND 79	0.00	0.20	0.00	0.00	0.20	0.00	0.20
IND 80	0.10	0.00	0.15	0.24	0.10	0.01	0.21
IND 81	0.15	0.31	0.25	0.40	0.16	0.02	0.21
IND 82	0.20	0.20	0.00	0.00	0.00	0.00	0.20
IND 83	1.65	0.02	0.13	0.11	0.12	0.01	0.23
IND 84	0.00	0.20	0.00	0.00	0.00	0.00	0.20
IND 85	0.00	0.00	0.00	0.20	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	0.00	0.20	0.00	0.00	0.00	0.00	0.20
TOTAL	406.21	15.94	229.31	614.95	264.90	30.05	34.32

LISTING FOR FILE SU\$DSA.

PAGE 2 -- INVESTMENT

[illegible]

IND 77	43	44	45	46	47	48	49
	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	0.01	0.10	0.12	0.53	0.34	0.15	0.23
IND 80	0.04	0.15	0.23	1.06	0.59	0.30	0.05
IND 81	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 82	0.09	0.54	1.21	0.22	0.70	0.42	0.04
IND 83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	64.65	234.24	353.78	443.41	505.28	143.01	41.35

LISTING FOR FILE SU\$DSA,

LISTING FOR FILE SU\$DSA,

[illegible]

LISTING FOR FILE SU4DSA,

PAGE 2 -- INVESTMENT

IND 77	36	37	38	39	40	41	42
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 79	0.00	0.00	0.00	0.00	0.20	0.00	0.20
IND 80	0.02	0.12	0.01	0.02	0.04	0.12	0.22
IND 81	0.04	0.14	0.01	0.02	0.05	0.15	0.03
IND 82	0.00	0.00	0.00	0.00	0.20	0.00	0.20
IND 83	0.14	1.17	0.06	0.23	0.04	0.01	0.33
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 85	0.00	0.00	0.00	0.00	0.20	0.00	0.20
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.20
BURDEN	0.00	0.20	0.00	0.00	0.00	0.00	0.20
TOTAL	219.00	1407.78	51.41	176.79	330.60	215.33	254.24

LISTING FOR FILE SU\$DSA, PAGE 2 -- INVESTMENT

PAGE 2 -- INVESTMENT

LISTING FOR FILE SU\$DSA,

[illegible]

LISTING FOR FILE SU\$DSA, PAGE 2 -- INVESTMENT

IND 77	29	30	31	32	33	34	35
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 80	0.04	1.92	0.07	0.32	0.09	1.81	0.00
IND 81	0.12	4.35	0.12	0.59	0.15	3.62	0.00
IND 82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 83	0.10	1.93	0.12	0.74	0.26	2.40	0.00
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EURDEN	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	111.12	2776.51	88.39	219.99	137.24	1600.49	36.83

LISTING FOR FILE SU\$DSA.

PAGE 2 -- INVESTMENT

[illegible]

IND 77	22	23	24	25	26	27	28
IND 78	0.00	0.00	0.00	0.00	0.20	0.00	0.00
IND 79	0.00	0.00	0.00	0.00	0.20	0.00	0.20
IND 80	0.00	0.02	0.03	0.00	2.45	0.41	0.16
IND 81	0.00	0.07	0.10	0.02	1.14	0.59	0.51
IND 82	0.00	0.00	0.00	0.00	2.00	0.00	0.20
IND 83	0.00	0.12	0.12	0.05	11.59	1.60	0.16
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 85	0.00	0.20	0.00	0.00	0.20	0.00	0.20
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	0.00	0.00	0.00	0.00	0.20	0.00	0.20
TOTAL	5.87	87.21	95.98	42.30	792.45	597.64	504.88

PAGE 2 -- INVESTMENT

LISTING FOR FILE SU\$DSA.

[illegible]

PAGE 2 -- INVESTMENT

LISTING FOR FILE SU\$DSA,

[illegible]

PAGE 2 -- INVESTMENT

[illegible]

	43	44	45	46	47	48	49
IND 39	145.28	22.36	652.09	0.07	73.17	42.17	5.32
IND 40	0.39	1324.25	18.89	0.00	0.25	1.84	0.33
IND 41	0.00	2088.51	0.00	0.00	0.00	18.34	0.30
IND 42	144.01	20.36	211.96	0.26	25.99	10.25	0.41
IND 43	520.04	37.40	53.69	3.00	52.99	154.01	9.73
IND 44	0.90	152.95	31.91	55.75	17.74	14.15	1.73
IND 45	25.57	292.50	794.34	3.06	45.93	61.92	3.33
IND 46	0.44	0.62	0.90	205.91	2767.31	48.41	100.65
IND 47	16.52	16.47	29.43	60.43	1311.57	603.85	352.34
IND 48	0.12	1.29	2.25	1.65	6.75	25.10	0.49
IND 49	2.41	1.09	5.79	6.92	30.13	21.27	18.95
IND 50	10.54	11.86	112.29	1.38	29.36	18.51	8.64
IND 51	54.94	15.45	16.33	0.23	2.56	0.51	0.17
IND 52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 53	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 55	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 56	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 58	8.67	1.82	114.97	1.01	12.34	142.25	1.41
IND 59	1.58	577.13	258.50	2.79	23.67	293.67	6.43
IND 60	0.02	5.08	0.70	0.05	0.54	0.14	0.00
IND 61	0.20	7.39	10.70	7.51	14.56	19.31	1.36
IND 62	2.19	26.30	15.26	60.06	30.30	14.59	2.13
IND 63	0.49	18.46	10.95	16.99	5.91	15.00	1.23
IND 64	0.04	0.00	12.27	0.07	0.19	0.05	0.00
IND 65	0.99	0.13	43.99	0.20	12.75	4.04	2.94
IND 66	2.59	17.11	33.02	1.08	12.41	9.04	1.43
IND 67	0.00	0.00	19.90	0.04	0.01	0.00	0.00
IND 68	0.07	0.01	6.19	0.02	0.29	0.02	0.41
IND 69	0.00	0.00	0.04	0.09	0.00	0.00	0.00
IND 70	0.00	0.18	1.55	0.00	0.00	0.00	0.00
IND 71	790.34	16.72	68.91	0.99	5.67	0.99	0.32
IND 72	0.00	0.00	2.69	0.00	0.00	0.01	0.00
IND 73	1.13	1.48	95.24	0.03	1.20	0.55	0.65
IND 74	9.44	12.34	14.62	7.07	49.68	16.14	5.56
IND 75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 76	0.29	0.14	15.17	6.91	10.45	0.25	0.29

LISTING FOR FILE SUD1980, PAGE 1 -- PRODUCTION

IND 77	43	44	45	46	47	48	49
	0.00	0.00	24.39	0.08	0.99	0.03	0.03
IND 78	0.00	0.00	0.00	607.38	0.00	0.00	0.00
IND 79	116.04	275.71	209.77	169.05	1194.47	162.11	96.62
IND 80	21.00	46.15	47.38	37.72	114.04	32.74	17.55
IND 91	3.39	5.32	71.42	3.37	2.33	4.34	0.15
IND 92	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 93	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 94	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 95	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDFN	112.32	-42.05	4.04	122.49	46.15	117.42	4.95
LABOR	98.10	431.22	740.93	2262.01	1734.20	737.37	405.29
PTI	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PROFIT	604.13	1526.22	1512.22	1173.34	1786.11	1012.75	83.72
TOTAL	3160.04	7616.28	6454.32	5615.65	10321.93	3962.86	1254.61
CAPITAL	729.75	2770.20	4201.76	5917.95	7226.79	2071.60	585.71
DFPRCATN	36.16	157.90	222.80	508.96	498.75	130.75	41.50

	50	51	52	53	54	55	56
1	19.62	0.69	68.56	1131.98	30.60	4.66	18.58
2	0.20	0.02	3.17	1.64	5.00	0.00	0.39
3	3.51	0.10	19.78	123.13	1.51	0.00	1.39
4	78.69	2.55	67.43	41.52	156.99	1.57	2.02
5	1.18	0.00	3.83	1.34	1.21	0.01	0.10
6	27.03	3.27	66.53	73.38	48.47	3.33	12.43
7	5.53	0.26	102.69	28.16	42.06	1.35	7.55
8	165.54	3.58	214.09	251.41	139.51	15.19	14.11
9	0.43	0.00	0.19	1.16	0.90	0.03	0.07
10	5.44	0.22	4.59	16.97	9.21	0.93	1.96
11	1.59	0.09	1.59	8.23	4.03	0.31	0.52
12	0.61	0.00	0.07	1.01	0.12	0.01	0.04
13	0.01	0.00	0.03	0.35	0.70	0.00	0.25
14	0.01	0.00	0.01	0.04	0.15	0.00	0.01
15	2.26	0.14	1.34	10.24	3.48	0.45	0.95
16	1.26	0.04	1.10	2.26	1.37	0.20	0.46
17	0.01	0.00	0.28	0.06	0.27	0.01	0.21
18	1.29	0.07	0.67	1.79	0.75	0.15	1.25
19	17.38	0.06	0.00	0.02	0.00	0.00	0.00
20	1.12	0.00	0.00	0.01	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.48	0.00	0.00	0.00	0.04	0.00	0.00
23	0.98	0.00	1.77	3.71	1.54	0.14	0.24
24	0.05	0.00	1.06	3.33	3.38	0.01	0.31
25	0.11	0.00	37.79	23.57	27.30	3.95	1.93
26	0.24	0.02	0.47	0.46	0.08	0.06	0.03
27	1.27	0.11	3.07	7.29	10.31	0.30	0.78
28	0.21	0.01	0.62	2.52	3.18	0.07	0.25
29	1.49	0.03	0.91	2.25	2.69	0.24	0.42
30	3.86	0.15	25.14	94.28	42.25	4.54	10.71
31	0.46	0.05	0.42	18.68	0.66	0.11	1.45
32	4.44	0.15	0.00	6.77	1.03	0.00	0.68
33	0.02	0.00	0.01	7.78	0.02	0.00	0.00
34	190.65	6.50	373.84	2760.01	834.29	233.95	42.23
35	0.59	0.01	0.11	1.33	0.29	0.05	0.09
36	25.27	0.00	0.85	0.03	0.09	0.01	0.50
37	82.89	7.99	3.70	5.64	2.16	0.80	8.52
38	5.98	0.00	0.02	0.48	0.09	0.50	0.45

LISTING FOR FILE SUD1980, PAGE 1 -- PRODUCTION

	50	51	52	53	54	55	56
IND 39	7.00	0.22	0.07	3.97	2.60	0.01	0.34
IND 40	1.40	0.00	0.62	0.12	0.02	0.36	0.02
IND 41	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 42	4.40	19.84	0.63	1.07	1.63	0.02	0.06
IND 43	3.32	0.24	0.00	0.00	0.00	0.00	1.51
IND 44	4.91	0.19	7.08	16.28	12.38	27.38	1.69
IND 45	15.29	3.41	0.78	8.00	1.30	0.03	0.21
IND 46	479.63	160.95	0.49	17.62	3.59	0.07	1.25
IND 47	16.36	1.93	6.16	75.14	16.21	0.00	8.23
IND 48	0.49	0.02	0.35	1.33	0.95	0.11	0.19
IND 49	6.27	1.00	1.33	4.93	9.09	0.15	0.25
IND 50	672.23	1.56	9.05	2.91	4.02	0.22	1.77
IND 51	40.39	32.09	1.74	3.67	0.05	0.00	0.01
IND 52	0.00	0.00	51.70	787.98	27.51	109.33	0.32
IND 53	0.00	0.00	0.00	19.67	0.00	0.00	0.00
IND 54	0.00	0.00	0.00	0.00	8.09	0.00	0.00
IND 55	0.00	0.00	0.00	0.00	0.00	0.39	0.00
IND 56	0.00	0.00	0.00	0.00	0.00	0.00	7.16
IND 57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 58	3.55	0.52	5.77	0.00	0.00	0.00	1.65
IND 59	80.86	0.13	2.50	4.89	3.64	12.25	0.92
IND 60	0.07	0.00	0.01	0.06	0.02	0.00	0.15
IND 61	4.34	0.06	1.89	3.34	1.38	0.19	2.50
IND 62	5.10	0.45	4.59	37.56	17.47	1.74	2.96
IND 63	20.98	0.13	1.09	10.39	3.46	0.24	0.40
IND 64	0.03	0.00	0.00	0.00	0.00	0.00	0.01
IND 65	13.54	0.04	0.00	1.31	0.04	0.00	0.24
IND 66	7.23	0.24	1.96	16.76	11.59	0.20	0.46
IND 67	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 68	0.07	0.00	0.00	0.00	0.00	0.00	0.00
IND 69	0.02	0.00	0.00	0.00	0.00	0.00	0.00
IND 70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 71	0.94	0.18	0.35	2.58	9.99	0.44	0.55
IND 72	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 73	6.24	0.06	0.17	1.11	0.59	0.02	0.06
IND 74	15.07	2.46	10.94	18.31	4.11	2.35	0.49
IND 75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 76	0.05	0.02	0.02	0.04	0.48	0.00	0.07

LISTING FOR FILE SUD1980, PAGE 1 -- PRODUCTION

IND 77	50	51	52	53	54	55	56
IND 79	0.00	0.00	0.00	0.06	0.00	0.00	0.00
IND 79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 80	285.21	60.13	204.29	345.13	266.27	88.36	23.32
IND 81	53.19	4.16	25.13	81.96	25.53	5.65	3.74
IND 82	71.68	0.21	0.39	1.50	1.47	0.04	0.05
IND 83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDFN	24.93	2.90	34.02	44.33	36.67	2.47	6.24
LABOR	393.54	24.21	121.95	441.67	959.09	0.00	122.92
PTI	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PROFIT	907.35	62.74	628.41	1349.00	435.33	93.42	140.43
TOTAL	3797.19	406.14	2179.21	9425.37	3238.90	618.45	460.34
CAPITAL	5724.15	171.79	3835.22	10828.95	4841.32	528.89	629.40
DFPRCATN	470.95	12.98	249.23	628.05	326.67	29.10	40.12

	57	58	59	60	61	62	63
IND 1	100.05	52.94	13.24	3.01	2.97	2.07	25.61
IND 2	46.93	3.36	0.42	0.05	0.02	0.40	3.96
IND 3	19.60	3.74	11.70	0.47	6.91	1.53	11.14
IND 4	120.03	5.68	22.62	6.24	6.46	11.53	13.20
IND 5	14.30	0.31	0.22	0.20	0.04	0.04	0.99
IND 6	438.45	59.96	22.33	3.09	5.66	5.95	21.01
IND 7	25.54	27.75	10.12	3.54	1.17	1.39	4.58
IND 8	279.27	69.67	348.25	49.99	23.02	64.79	89.78
IND 9	2.52	0.07	1.45	0.10	0.04	0.15	0.14
IND 10	22.38	5.82	17.44	3.30	1.95	6.49	6.56
IND 11	14.10	1.67	5.03	0.73	0.53	1.22	1.75
IND 12	1.19	0.05	0.14	0.02	0.02	0.02	0.11
IND 13	0.39	0.17	0.06	0.00	0.00	0.03	0.24
IND 14	0.97	0.06	0.07	0.00	0.00	0.00	0.14
IND 15	6.35	3.43	5.30	2.10	1.47	3.67	4.95
IND 16	2.43	1.40	2.37	0.56	0.19	0.45	0.95
IND 17	24.15	0.07	0.01	0.00	0.00	0.00	0.01
IND 18	5.14	0.32	0.53	0.16	0.07	0.10	1.14
IND 19	0.28	0.01	0.99	0.02	0.01	0.10	0.29
IND 20	1.24	0.15	119.17	20.52	11.06	24.84	18.56
IND 21	0.01	0.06	0.45	0.02	0.02	0.09	0.01
IND 22	0.02	0.00	0.00	0.01	0.00	0.02	0.01
IND 23	8.45	0.40	0.41	0.05	0.06	0.02	0.27
IND 24	40.08	0.12	0.02	0.01	0.00	0.00	0.05
IND 25	65.45	2.75	0.02	0.00	0.00	0.02	0.01
IND 26	3.17	0.07	0.04	0.00	0.07	0.00	0.03
IND 27	32.08	2.13	2.59	0.74	1.35	4.94	1.99
IND 28	10.31	0.32	0.61	0.04	0.19	0.03	0.16
IND 29	6.44	0.65	2.27	0.40	0.34	0.30	0.60
IND 30	109.27	31.99	0.00	0.00	0.00	0.00	0.00
IND 31	4.10	14.92	1.31	0.33	0.23	0.55	1.18
IND 32	28.36	3.57	10.23	14.32	4.77	29.15	40.11
IND 33	0.58	0.05	0.12	0.00	0.02	0.01	0.23
IND 34	335.14	162.19	195.84	38.51	20.70	59.59	69.66
IND 35	4.47	5.61	0.62	0.10	0.31	0.32	2.48
IND 36	0.90	16.99	0.50	0.01	0.05	2.45	1.65
IND 37	120.28	132.02	44.00	7.47	2.12	0.57	60.65
IND 38	3.97	3.83	154.18	28.22	11.97	0.39	52.79

LISTING FOR FILE SUD1980, PAGE 1 -- PRODUCTION

	57	59	60	61	62	63
IND 39	106.25	9.26	5.89	2.42	9.57	119.26
IND 40	1.11	0.79	395.72	473.70	94.93	172.66
IND 41	10.83	0.00	0.00	0.00	0.00	216.94
IND 42	36.45	1.33	2.90	0.62	0.41	123.22
IND 43	50.28	6.93	2.29	1.42	4.52	30.31
IND 44	83.23	6.18	10.20	13.44	63.24	43.66
IND 45	31.03	44.99	28.33	5.69	29.59	55.93
IND 46	28.64	7.46	1.05	1.32	1.10	50.96
IND 47	65.98	60.27	2.46	2.56	13.03	32.24
IND 48	4.45	1.38	1.03	0.31	5.15	3.54
IND 49	7.72	9.31	0.51	1.59	5.35	21.49
IND 50	127.99	25.97	31.88	11.43	37.19	92.08
IND 51	2.31	0.40	0.16	0.49	0.09	17.47
IND 52	375.91	0.00	0.00	0.00	0.00	0.00
IND 53	0.00	0.00	0.00	0.00	0.00	0.00
IND 54	0.00	0.00	0.00	0.00	0.00	0.00
IND 55	0.00	0.00	0.00	0.00	0.00	0.00
IND 56	0.00	0.00	0.00	0.00	0.00	0.00
IND 57	905.93	0.00	0.00	0.00	0.00	0.00
IND 58	17.65	96.04	0.79	0.29	12.09	4.30
IND 59	28.38	7.51	3056.26	1015.36	11412.59	1645.33
IND 60	0.08	0.23	790.28	7.92	269.53	66.34
IND 61	36.22	8.45	154.59	627.78	187.67	104.35
IND 62	43.25	10.48	4.54	6.19	37.91	16.79
IND 63	9.94	2.28	34.75	26.98	1393.17	4709.09
IND 64	0.43	0.10	0.01	0.61	0.00	18.25
IND 65	2.37	0.71	0.14	0.30	0.09	835.70
IND 66	17.72	8.08	2.67	2.60	1.33	13.95
IND 67	0.02	0.00	0.00	0.13	0.02	2.15
IND 68	0.22	0.03	0.00	0.70	0.00	0.21
IND 69	0.00	0.00	0.00	0.00	0.00	0.00
IND 70	0.01	0.00	0.00	0.22	0.01	0.01
IND 71	21.41	0.73	0.75	1.46	1.23	22.22
IND 72	0.00	0.00	0.00	0.00	0.00	0.00
IND 73	2.56	0.75	1.08	1.46	1.85	7.24
IND 74	21.72	4.05	3.94	1.69	14.05	6.35
IND 75	0.00	0.00	0.00	0.00	0.00	0.00
IND 76	0.79	0.34	0.06	302.31	1.01	1.34
		5428.29				

LISTING FOR FILE SUD1980, PAGE 1 -- PRODUCTION

IND 77	57	58	59	60	61	62	63
IND 78	4.55	0.00	3474.09	12.67	149.12	0.00	1382.77
IND 79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 80	946.77	106.53	493.83	90.94	53.92	200.77	195.37
IND 81	108.74	22.85	459.33	6.94	27.96	25.04	84.14
IND 82	65.46	5.19	12.22	0.18	8.41	4.01	120.76
IND 83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	106.35	32.11	2598.41	-125.25	-92.73	3915.35	-425.72
LABOR	1527.43	499.34	2094.16	735.30	294.99	2771.39	1393.97
PTI	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PROFIT	2086.48	951.29	4099.71	1267.91	557.22	3493.33	877.05
TOTAL	8784.94	2445.54	42176.23	7196.12	3613.08	24229.95	12496.99
CAPITAL	8651.57	2127.94	8610.99	1910.59	914.99	3877.45	2893.53
DEPRCATN	581.54	129.07	494.29	119.15	50.03	149.65	142.93

	64	65	66	67	68	69	70
IND 1	48.96	33.60	39.03	13.38	1.39	4.12	8.26
IND 2	0.02	0.03	0.00	17.75	0.00	0.04	0.29
IND 3	11.02	2.07	1.97	1.34	2.44	1.40	1.11
IND 4	15.05	15.54	40.01	18.24	1.64	49.79	3.24
IND 5	0.19	0.48	0.99	1.08	0.00	0.10	0.01
IND 6	244.98	18.24	29.35	70.20	4.45	20.19	2.86
IND 7	0.40	7.75	4.44	7.76	0.62	11.71	4.08
IND 8	28.99	105.00	97.99	26.31	59.16	37.93	22.91
IND 9	10.02	0.20	0.54	0.42	0.26	0.15	0.03
IND 10	8.02	2.97	2.93	3.21	1.53	2.99	3.25
IND 11	1.94	1.60	1.41	1.44	0.72	0.72	0.39
IND 12	0.14	0.07	0.04	0.06	0.00	0.24	0.22
IND 13	0.05	0.03	0.05	0.05	0.01	0.00	0.01
IND 14	0.00	0.02	0.01	0.01	0.00	0.00	0.00
IND 15	12.96	1.67	1.81	1.76	1.12	3.33	1.33
IND 16	3.91	0.61	1.14	1.64	0.12	0.99	0.25
IND 17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 18	5.60	4.45	2.71	1.34	0.04	0.59	0.17
IND 19	0.01	0.00	0.00	0.00	0.00	0.01	0.00
IND 20	0.01	0.04	0.02	0.02	0.01	0.22	0.02
IND 21	10.48	4.77	24.22	9.03	7.90	15.40	4.00
IND 22	0.00	0.00	0.00	0.01	0.00	0.12	0.02
IND 23	0.69	0.17	0.15	0.55	0.34	0.05	0.05
IND 24	0.03	0.01	0.02	0.10	0.00	0.03	0.00
IND 25	0.01	0.00	0.00	0.01	0.00	0.00	0.00
IND 26	47.12	0.07	0.16	0.10	0.01	0.02	0.02
IND 27	3.95	6.18	5.56	2.17	0.43	1.43	0.62
IND 28	0.99	0.32	0.29	2.21	0.09	0.03	0.06
IND 29	0.97	0.42	0.44	0.74	0.46	0.21	0.18
IND 30	66.11	19.35	22.67	27.11	9.68	21.64	19.43
IND 31	0.36	0.54	0.83	0.29	0.10	0.40	0.16
IND 32	73.27	11.96	10.64	0.91	1.44	6.93	4.56
IND 33	0.14	0.00	0.00	0.00	0.01	0.00	0.00
IND 34	380.06	62.73	69.60	137.28	32.26	60.00	21.34
IND 35	0.23	0.20	0.18	0.17	0.05	0.07	0.04
IND 36	0.03	0.29	0.06	1.11	0.00	0.00	0.22
IND 37	5.99	22.60	9.83	4.54	0.19	0.99	1.79
IND 38	0.35	0.06	0.10	0.06	0.02	0.10	0.22

	64	65	66	67	68	69	70
IND 39	0.98	10.13	1.81	0.70	0.06	0.22	0.97
IND 40	4.52	0.80	0.37	0.33	0.44	0.01	0.25
IND 41	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 42	1.02	0.99	1.10	0.73	0.02	0.75	1.60
IND 43	7.53	3.68	3.06	2.50	0.33	3.29	1.73
IND 44	14.26	2.81	6.49	3.23	1.94	1.83	0.71
IND 45	8.13	19.83	9.01	1.96	1.96	0.81	2.21
IND 46	5.33	3.71	2.49	1.27	0.21	2.05	0.29
IND 47	123.95	64.56	21.55	4.81	1.42	50.85	40.67
IND 48	0.41	0.97	0.72	0.30	0.12	1.19	0.35
IND 49	17.29	6.98	2.25	2.52	0.17	4.42	2.36
IND 50	64.03	26.38	61.30	10.10	3.10	31.91	94.25
IND 51	1.96	0.26	0.16	0.10	0.00	0.02	0.03
IND 52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 53	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 55	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 56	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 58	1.96	2.62	28.86	0.21	0.15	1.13	1.13
IND 59	13.00	7.17	10.59	20.55	6.31	9.53	1.84
IND 60	3.99	0.05	0.07	0.02	0.00	0.01	2.04
IND 61	175.74	13.05	1.27	3.38	0.99	3.07	1.26
IND 62	36.23	35.34	11.17	11.92	6.24	29.64	5.65
IND 63	10.75	7.84	3.57	1.49	0.59	4.89	1.27
IND 64	366.99	5.94	0.08	0.00	1.34	0.01	14.02
IND 65	6.69	11086.44	5.77	1.40	0.38	40.09	85.25
IND 66	4.98	50.27	2244.40	0.39	0.33	143.85	426.26
IND 67	6.35	3.24	141.43	954.94	0.01	197.43	937.14
IND 68	5.27	23.05	3.30	0.00	46.50	5037.02	155.02
IND 69	0.23	7.39	0.01	0.00	0.00	50.15	0.06
IND 70	0.09	0.07	12.60	0.00	0.00	9.07	865.02
IND 71	73.16	8.32	6.07	1.21	0.44	271.40	250.52
IND 72	25.09	6.03	5.98	0.01	0.00	27.21	252.01
IND 73	37.79	41.11	29.62	9.22	1.02	127.99	394.76
IND 74	55.77	88.76	27.10	19.24	1.20	80.44	44.90
IND 75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 76	8.46	22.91	1.54	2743.02	9173.96	17.75	1180.38

LISTING FOR FILE SUD1980, PAGE 1 -- PRODUCTION

	64	65	66	67	68	69	70
IND 77	7.56	26546.09	10455.83	0.02	0.00	86.53	57.06
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	341.97	153.95	106.56	117.34	222.37	182.35	142.33
IND 80	59.12	579.23	240.52	192.08	602.42	113.02	121.10
IND 81	2.21	11.65	4.04	2.14	0.60	7.79	61.25
IND 82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	28.66	-3923.99	-377.61	-119.66	8.02	712.41	217.99
LABOR	1173.06	554.50	521.02	204.57	209.00	769.04	264.07
PTI	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PROFIT	1000.30	1580.01	2272.21	871.10	679.71	688.05	770.85
TOTAL	7977.19	37475.66	16226.36	5416.31	11095.45	9949.25	6399.13
CAPITAL	9977.43	3077.88	3493.26	3339.20	2081.47	2934.70	784.40
DEPRCATN	706.01	108.87	152.41	174.33	85.63	109.15	39.32

	71	72	73	74	75	76	77
IND 1	3.04	37.87	36.69	844.62	4721.48	27.19	25.90
IND 2	0.02	0.00	0.76	34.48	0.00	0.00	0.00
IND 3	0.58	1.63	3.99	63.11	449.66	21.17	15.21
IND 4	2.28	10.09	29.75	62.89	153.13	126.33	126.57
IND 5	0.44	0.13	0.88	4.95	31.49	0.94	2.25
IND 6	15.64	14.02	43.85	142.04	889.33	451.91	152.33
IND 7	3.31	2.32	10.13	52.78	26.05	1.84	3.31
IND 8	33.46	25.98	101.98	292.54	789.10	252.57	349.93
IND 9	0.09	0.15	0.12	5.37	46.14	0.00	0.00
IND 10	0.77	1.27	4.82	30.00	789.60	28.59	36.42
IND 11	0.39	0.55	2.05	6.73	1365.75	4.51	6.28
IND 12	0.00	0.03	0.14	0.89	13.98	4.25	1.97
IND 13	0.01	0.00	0.06	0.28	3.79	0.00	0.00
IND 14	0.00	0.00	0.01	0.14	1.02	0.00	0.00
IND 15	0.94	1.43	5.64	5.03	139.63	47.83	13.30
IND 16	1.25	0.39	3.38	10.50	80.60	3.35	3.32
IND 17	0.00	0.00	0.26	1.54	400.95	0.00	0.00
IND 18	0.24	0.29	1.36	5.20	56.02	2.97	3.31
IND 19	0.00	0.00	0.00	0.77	19.63	0.00	0.00
IND 20	0.00	0.00	0.09	2.29	0.00	0.00	0.00
IND 21	5.39	3.79	14.09	1.25	0.00	0.00	0.00
IND 22	0.00	0.00	0.14	0.03	0.00	0.00	0.00
IND 23	0.17	0.19	0.31	1.50	109.59	0.00	0.00
IND 24	0.00	0.00	0.02	1.79	327.91	3.99	2.74
IND 25	0.00	0.00	0.01	1.25	17.60	0.00	0.00
IND 26	0.02	0.01	0.07	5.69	12.27	0.00	0.00
IND 27	0.27	2.08	3.97	39.74	512.73	165.93	94.73
IND 28	0.05	0.32	0.48	30.16	211.17	586.79	164.79
IND 29	0.18	0.19	0.81	5.50	22.00	11.11	4.30
IND 30	11.46	9.21	45.94	13.33	661.92	30.55	1.22
IND 31	0.13	0.14	0.86	1.60	1838.51	0.00	0.00
IND 32	2.51	30.94	44.01	6.12	853.01	289.67	359.32
IND 33	0.00	0.03	0.14	0.32	2703.05	0.00	0.00
IND 34	21.48	32.13	143.11	768.71	2921.80	2377.55	2626.27
IND 35	0.03	0.04	0.13	2.06	20.95	7.93	4.57
IND 36	0.14	0.01	2.33	7.64	0.00	51.65	7.22
IND 37	35.00	1.48	27.33	138.70	205.61	2680.72	26.48
IND 38	0.37	0.07	1.07	46.47	49.22	0.00	0.00

	71	72	73	74	75	76	77
IND 39	0.33	0.08	12.71	97.30	65.80	0.00	0.00
IND 40	0.03	0.03	7.24	82.88	5.10	0.00	0.00
IND 41	0.00	0.00	0.19	0.00	0.00	0.00	0.00
IND 42	70.26	0.59	38.83	24.96	38.04	10.93	3.24
IND 43	3.92	2.04	7.83	56.35	950.59	11.15	12.35
IND 44	1.13	2.20	6.77	3.31	479.39	257.00	120.39
IND 45	2.29	1.21	38.81	248.98	219.50	74.60	292.94
IND 46	0.91	1.35	1.85	35.69	654.28	45.42	107.19
IND 47	18.59	64.49	111.49	34.96	4451.35	92.94	166.10
IND 49	0.14	1.21	1.03	1.59	40.79	3.29	7.13
IND 49	0.42	3.02	8.95	3.37	298.82	40.25	50.65
IND 50	20.41	20.43	171.37	346.71	120.93	5.13	11.09
IND 51	0.92	0.59	3.16	0.00	5.07	3.42	3.63
IND 52	0.00	0.00	0.00	0.00	543.29	0.00	0.00
IND 53	0.00	0.00	0.00	0.00	9310.13	0.00	0.00
IND 54	0.00	0.00	0.00	0.00	3032.13	0.00	0.00
IND 55	0.00	0.00	0.00	0.00	516.17	0.00	0.00
IND 56	0.00	0.00	0.00	0.00	327.94	0.00	0.00
IND 57	0.00	0.00	0.00	0.00	5406.35	0.00	0.00
IND 58	3.27	38.38	118.77	30.30	587.36	8.85	14.40
IND 59	463.39	1.65	9.96	587.30	110.74	94.55	39.59
IND 60	0.01	0.09	0.37	22.62	0.00	0.00	0.00
IND 61	0.31	0.47	4.95	38.90	176.34	44.85	28.35
IND 62	2.71	5.66	17.22	27.73	613.37	96.54	131.16
IND 63	0.92	1.38	3.99	6.94	109.94	29.30	55.97
IND 64	17.15	0.58	4.04	24.00	0.00	3.84	448.54
IND 55	319.10	270.19	247.81	84.33	17.77	25.69	321.95
IND 66	61.17	4.30	42.10	21.72	11.43	32.32	859.53
IND 57	2.58	144.26	348.81	19.33	0.00	4.63	119.64
IND 68	0.00	9.96	71.46	999.47	1.54	26.32	2779.31
IND 69	0.00	1.17	7.06	0.40	0.00	0.00	0.00
IND 70	0.09	3.14	0.83	5.29	0.00	0.00	0.00
IND 71	1679.20	52.68	98.90	21.22	153.36	4.45	58.59
IND 72	0.33	159.97	232.89	4.28	0.00	0.00	0.00
IND 73	8.43	41.95	6750.69	45.57	0.00	16.00	110.65
IND 74	31.71	10.15	109.96	577.52	230.74	131.12	4660.13
IND 75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 76	1406.55	908.89	4497.88	2958.30	55.20	6937.85	15029.05

LISTING FOR FILE SUD1980, PAGE 1 -- PRODUCTION

IND 77	71	72	73	74	75	76	77
	5.03	54.41	2.42	13.39	19.93	771.02	4133.55
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	109.08	68.24	473.49	451.10	9012.74	617.79	765.57
IND 80	110.06	74.55	393.79	296.72	752.03	667.15	1199.33
IND 81	0.12	11.11	11.79	59.44	257.06	49.23	93.33
IND 82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FURDEN	72.46	-41.39	32.19	151.52	1329.10	812.42	-178.30
LABOR	90.92	277.80	872.22	3654.27	28960.38	25129.43	26595.20
PTI	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PROFIT	512.98	335.24	4440.45	4314.21	13889.79	11261.59	2532.65
TOTAL	5156.49	2708.42	19725.00	17977.66	102196.84	54378.55	64600.42
CAPITAL	909.50	1785.14	6367.66	23512.98	49769.41	94495.73	121691.29
DEPRCATN	47.04	79.26	321.45	1290.03	5459.04	5179.81	4199.35

	79	80	81	82	83	84
IND 1	0.71	127.32	24.23	0.64	1182.01	72.23
IND 2	0.00	0.20	0.00	0.00	55.48	0.00
IND 3	0.59	103.41	10.39	1.04	103.71	1.95
IND 4	0.60	207.70	152.56	2.25	7.51	608.01
IND 5	0.00	33.96	1.26	0.00	0.00	0.00
IND 6	4.52	1593.11	206.51	7.15	120.39	394.54
IND 7	0.00	51.27	17.26	0.32	20.20	65.02
IND 8	2.31	1531.41	599.01	13.25	106.22	514.14
IND 9	0.00	5.93	0.00	0.05	10.70	0.00
IND 10	0.00	93.31	55.69	1.09	165.67	58.07
IND 11	0.00	27.60	15.05	0.21	12.66	21.61
IND 12	0.00	0.52	0.00	0.01	21.14	0.00
IND 13	0.00	0.36	0.00	0.31	0.43	0.00
IND 14	0.00	0.00	0.00	0.00	0.35	0.00
IND 15	5.22	43.24	18.80	0.99	204.21	0.00
IND 16	0.00	23.01	10.37	1.04	461.66	67.03
IND 17	0.00	0.00	0.00	0.00	12.97	0.00
IND 18	0.00	12.99	24.27	0.11	81.52	57.53
IND 19	0.00	16.47	0.00	0.00	0.10	0.00
IND 20	0.00	0.00	0.00	0.00	1.29	0.00
IND 21	0.00	0.00	12.60	0.00	4.78	0.00
IND 22	0.00	0.00	0.09	0.00	0.00	0.00
IND 23	0.00	27.79	25.22	1.38	2.59	0.00
IND 24	0.00	8.79	1.29	0.01	23.33	0.00
IND 25	0.00	0.00	0.00	0.00	1.74	0.00
IND 26	0.00	336.24	0.00	0.00	3213.86	9.72
IND 27	7.02	744.92	37.95	5.79	65.21	110.85
IND 28	8.94	18.00	27.22	0.01	26.19	0.00
IND 29	0.00	31.70	2.89	0.02	32.35	3.12
IND 30	22.34	151.29	243.81	0.00	3785.13	202.32
IND 31	0.00	6.19	8.23	0.08	24.82	14.49
IND 32	0.93	51.11	216.96	0.11	146.31	96.29
IND 33	0.00	0.00	0.00	0.00	43.97	0.00
IND 34	-149.92	3069.81	1755.66	11.17	226.69	280.70
IND 35	0.00	4.10	0.22	0.01	4.31	0.00
IND 36	0.00	0.00	0.00	0.00	22.35	0.00
IND 37	3.56	50.94	23.73	4.10	474.91	16.37
IND 38	0.20	0.20	0.04	0.01	19.24	0.54

LISTING FOR FILE SUD1980, PAGE 1 -- PRODUCTION

	78	79	80	81	82	83	84
IND 39	0.00	1.21	5.24	0.10	29.53	2.42	1.40
IND 40	0.00	0.00	2.83	0.00	0.00	0.00	0.00
IND 41	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 42	0.00	17.86	5.41	0.18	122.03	0.00	0.00
IND 43	0.00	104.77	32.17	1.20	109.93	27.42	15.99
IND 44	0.00	1089.51	41.97	0.77	181.11	79.33	46.21
IND 45	0.00	9.93	51.03	32.98	373.77	184.62	107.02
IND 46	2.09	70.42	34.87	2.13	0.00	34.02	87.59
IND 47	1.58	139.23	150.88	0.93	209.66	7.77	20.00
IND 48	0.00	16.80	61.46	1.56	26.32	7.32	18.95
IND 49	0.00	97.63	26.64	0.59	117.74	2.10	5.42
IND 50	0.27	25.81	269.04	183.45	260.17	18.45	47.52
IND 51	0.00	2.22	1.67	0.10	0.00	0.00	0.00
IND 52	0.00	0.00	0.00	0.00	0.99	0.00	0.00
IND 53	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 54	0.00	0.00	0.00	0.00	0.00	1.89	4.77
IND 55	0.00	0.00	0.00	0.00	0.43	0.00	0.00
IND 56	0.00	0.00	0.00	0.00	0.00	5.40	13.66
IND 57	0.00	0.00	0.00	0.00	0.67	21.13	53.52
IND 58	0.00	18.06	167.50	0.05	23.01	12.65	31.99
IND 59	0.00	89.40	118.24	0.58	75.91	19.55	34.06
IND 60	0.00	0.00	57.91	0.01	0.00	29.11	50.71
IND 61	0.00	86.30	37.05	0.97	22.23	3.91	6.54
IND 62	6.12	204.06	326.55	1.67	82.56	74.77	130.25
IND 63	0.00	58.77	76.44	38.28	5.23	9.93	15.65
IND 64	0.00	0.00	67.79	0.00	0.00	5.17	8.91
IND 65	0.00	0.00	554.71	0.15	0.00	21.70	36.99
IND 66	0.00	0.00	178.27	0.08	0.00	26.23	44.31
IND 67	0.00	0.00	53.16	0.00	0.00	3.84	6.55
IND 68	0.00	0.27	66.51	0.00	0.00	0.00	0.00
IND 69	0.00	0.00	97.91	0.00	0.00	4.95	9.45
IND 70	0.00	0.00	112.04	0.00	0.00	3.44	5.97
IND 71	0.00	24.61	54.00	0.54	0.00	0.00	0.00
IND 72	0.00	0.00	34.27	0.00	0.00	0.39	0.57
IND 73	0.00	1.66	419.27	0.03	0.00	2.95	5.02
IND 74	2.70	103.35	193.54	217.42	98.00	307.79	253.31
IND 75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 76	10.75	9.75	441.53	0.00	0.00	0.00	0.00

LISTING FOR FILE SUD1980, PAGE 1 -- PRODUCTION

	78	79	90	81	82	93	84
IND 77	0.00	0.00	86.76	0.00	0.00	0.00	2.20
IND 78	0.00	0.00	0.00	30.25	0.00	0.00	0.20
IND 79	5.54	902.68	796.54	23.72	435.64	411.13	306.35
IND 80	2.61	258.85	117.87	10.65	857.57	149.24	111.19
IND 81	0.00	0.00	265.11	3.96	11.39	0.00	0.00
IND 82	0.00	0.00	0.00	0.00	2585.17	0.00	0.00
IND 83	0.00	0.00	0.00	0.00	83.73	0.00	0.00
IND 84	0.00	0.00	0.00	0.00	160.66	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDFN	15.18	2545.05	-123.32	-0.43	89.30	795.01	682.57
LAPOR	641.51	11386.66	12939.21	1433.10	8043.33	6752.01	5943.41
PTI	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PROFIT	46.91	19705.23	14225.22	1922.28	2679.92	7198.21	1112.73
TOTAL	642.18	45942.50	35728.55	3959.35	27371.93	19906.99	10875.14
CAPITAL	1328.58	110282.94	50767.22	511.65	16634.12	37733.62	347013.75
DFPRCATN	78.93	6001.58	2176.99	43.33	943.01	1946.59	1239.56

	85	TOTAL
IND 1	0.00	48374.56
IND 2	0.00	3338.57
IND 3	0.00	2547.22
IND 4	0.00	13028.08
IND 5	0.00	5364.15
IND 6	0.00	9539.53
IND 7	0.00	2461.99
IND 8	0.00	17342.63
IND 9	0.00	1391.33
IND 10	0.00	8085.94
IND 11	0.00	3572.99
IND 12	0.00	212.80
IND 13	0.00	74.50
IND 14	0.00	34.13
IND 15	0.00	1524.13
IND 16	0.00	5780.27
IND 17	0.00	1475.27
IND 18	0.00	1424.73
IND 19	0.00	141.60
IND 20	0.00	336.47
IND 21	0.00	217.20
IND 22	0.00	4.70
IND 23	0.00	482.44
IND 24	0.00	739.82
IND 25	0.00	221.91
IND 26	0.00	4923.90
IND 27	0.00	9784.53
IND 28	0.00	6050.93
IND 29	0.00	1222.85
IND 30	0.00	29026.51
IND 31	0.00	2238.15
IND 32	0.00	4731.92
IND 33	0.00	2827.08
IND 34	0.00	31381.08
IND 35	0.00	711.70
IND 36	0.00	756.10
IND 37	0.00	7990.79
IND 38	0.00	743.27

	85	TOTAL
IND 39	0.00	3768.71
IND 40	0.00	4194.96
IND 41	0.00	2472.76
IND 42	0.00	3255.75
IND 43	0.00	3563.03
IND 44	0.00	6982.78
IND 45	0.00	4565.12
IND 46	0.00	5452.39
IND 47	0.00	10340.24
IND 48	0.00	479.79
IND 49	0.00	1172.53
IND 50	0.00	4357.55
IND 51	0.00	402.04
IND 52	0.00	2180.49
IND 53	0.00	8425.37
IND 54	0.00	3239.13
IND 55	0.00	613.77
IND 56	0.00	479.56
IND 57	0.00	9190.62
IND 58	0.00	2094.42
IND 59	0.00	42545.94
IND 60	0.00	1320.60
IND 61	0.00	2472.35
IND 62	0.00	3092.97
IND 63	0.00	7266.45
IND 64	0.00	4321.41
IND 65	0.00	14103.02
IND 66	0.00	4857.54
IND 67	0.00	2724.72
IND 68	0.00	9240.25
IND 69	0.00	178.60
IND 70	0.00	1018.43
IND 71	0.00	4009.04
IND 72	0.00	804.60
IND 73	0.00	8402.91
IND 74	0.00	8774.74
IND 75	0.00	0.00
IND 76	0.00	50983.97

IND 77	85	TOTAL
IND 78	0.00	47290.03
IND 79	0.00	537.63
IND 80	0.00	75922.90
IND 81	0.00	11202.69
IND 82	0.00	2548.41
IND 83	0.00	2585.17
IND 84	0.00	83.73
IND 85	0.00	160.66
UND IMPS	0.00	0.00
BURDEN	0.00	0.00
LABOR	3101.75	15073.50
PTI	43207.96	242295.06
PROFIT	0.00	0.00
TOTAL	4934.80	200961.56
CAPITAL	51244.41	1033915.50
DEPRCATN	0.00	1279327.00
	0.00	53173.53

LISTING FOR FILE SUD1980, PAGE 2 -- INVESTMENT

IND 77	1	2	3	4	5	6	7
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 80	1.04	0.00	0.03	1.70	0.06	0.05	0.04
IND 81	1.74	0.00	0.05	3.06	0.16	0.13	0.05
IND 82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 83	2.37	0.06	0.26	0.42	0.00	1.73	7.11
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	5849.12	193.03	175.69	2021.75	2955.07	694.45	1271.00

LISTING FOR FILE SUD1980, PAGE 2 -- INVESTMENT

	8	9	10	11	12	13	14
IND 39	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 40	0.00	0.00	0.00	0.20	0.20	0.00	0.00
IND 41	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 43	0.00	0.20	0.00	0.00	0.00	0.00	0.20
IND 44	0.02	0.00	0.03	0.00	0.00	0.00	0.00
IND 45	0.07	0.21	0.10	0.00	0.21	0.01	0.00
IND 46	0.00	0.00	0.00	0.20	0.00	0.00	0.00
IND 47	0.04	0.00	0.01	0.00	0.31	0.00	0.00
IND 48	4.25	1.95	5.41	0.55	2.42	0.87	0.23
IND 49	0.00	0.20	0.00	0.00	0.20	0.00	0.00
IND 50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 52	0.00	0.20	0.00	0.00	0.20	0.00	0.00
IND 53	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 55	0.00	0.00	0.00	0.00	0.20	0.00	0.00
IND 56	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 57	0.00	0.00	0.00	0.00	0.20	0.00	0.00
IND 58	0.00	0.20	0.00	0.00	0.00	0.00	0.00
IND 59	0.07	0.01	0.11	0.00	0.01	0.01	0.00
IND 60	0.00	0.20	0.00	0.00	0.00	0.00	0.00
IND 61	0.01	0.00	0.01	0.00	0.00	0.00	0.00
IND 62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 63	0.00	0.00	0.00	0.20	0.20	0.00	0.00
IND 64	0.20	0.20	0.00	0.00	0.00	0.00	0.00
IND 65	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 66	0.00	0.00	0.00	0.00	0.20	0.00	0.00
IND 67	0.00	0.00	0.00	0.20	0.00	0.00	0.00
IND 68	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 69	0.00	0.00	0.00	0.20	0.00	0.00	0.00
IND 70	0.00	0.00	0.00	0.00	0.20	0.00	0.00
IND 71	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 72	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 73	0.00	0.20	0.00	0.00	0.00	0.00	0.00
IND 74	0.09	0.00	0.04	0.00	0.02	0.01	0.00
IND 75	3754.89	107.96	393.07	57.29	91.29	30.43	9.10
IND 76	0.00	0.20	0.00	0.00	0.20	0.00	0.00

LISTING FOR FILE SUD1980, PAGE 2 -- INVESTMENT

	8	9	10	11	12	13	14
IND 77	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	2.03	0.04	0.23	0.03	0.11	0.03	0.00
IND 90	1.96	0.09	0.85	0.07	0.13	0.05	2.01
IND 91	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 92	0.79	0.56	1.81	0.22	0.17	0.03	2.24
IND 93	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 94	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 95	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	5377.63	182.35	641.26	116.91	168.32	56.05	14.64

LISTING FOR FILE SUD1980, PAGE 2 -- INVESTMENT

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LISTING FOR FILE SUDI980, PAGE 2 -- INVESTMENT

IND 39	0.00	15	0.00	17	19	20	21
IND 40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 41	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 48	1.43	11.37	3.59	3.17	0.69	0.83	0.51
IND 49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 53	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 55	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 56	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 58	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 59	0.01	0.19	0.03	0.05	0.01	0.03	0.01
IND 60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 61	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 65	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 66	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 67	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 68	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 69	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 71	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 72	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 73	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 74	0.01	0.04	0.07	0.02	0.01	0.01	0.01
IND 75	61.52	311.13	232.11	194.37	30.52	49.71	35.73
IND 76	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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LISTING FOR FILE SUD1980, PAGE 2 -- INVESTMENT

IND 77	15	0.00	17	0.00	18	0.00	19	0.00	20	0.00	21	0.00
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	0.05	0.18	0.44	0.09	0.09	0.02	0.02	0.05	0.05	0.05	0.22	0.22
IND 80	0.06	0.96	0.79	0.36	0.36	0.03	0.03	0.15	0.15	0.15	0.27	0.27
IND 81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 82	0.35	0.85	0.17	0.73	0.73	0.03	0.03	0.12	0.12	0.12	0.10	0.10
IND 93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
INC 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	121.93	544.74	393.14	309.17	309.17	50.59	50.59	84.70	84.70	84.70	56.36	56.36

INVESTMENT

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INVESTMENT

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LISTING FOR FILE SUD1980, PAGE 2 -- INVESTMENT

IND 77	22	23	24	25	25	27	28
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 80	0.00	0.03	0.05	0.01	0.57	0.73	0.19
IND 81	0.01	0.11	0.17	0.03	1.43	1.03	0.72
IND 82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 83	0.06	0.20	0.20	0.08	14.98	2.89	0.19
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	9.64	145.09	143.05	70.39	1019.31	1235.17	577.16

LISTING FOR FILE SUD1980,

PAGE 2 -- INVESTMENT

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LISTING FOR FILE SUD1980, PAGE 2 -- INVESTMENT

IND 77	29	30	31	32	33	34	35
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 79	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 90	0.06	3.22	0.11	0.53	0.14	3.04	0.24
IND 91	0.21	7.42	0.21	1.00	0.25	6.13	0.27
IND 92	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 93	0.17	3.27	0.21	1.24	0.44	4.05	0.10
IND 94	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 95	0.00	0.00	0.00	0.00	0.00	0.00	0.20
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	0.00	0.00	0.00	0.00	0.00	0.00	0.20
TOTAL	178.66	4589.17	148.70	369.15	231.97	2685.02	56.41

LISTING FOR FILE SUD1980, PAGE 2 -- INVESTMENT

LISTING FOR FILE SUD1980.

PAGE 2 -- INVESTMENT

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LISTING FOR FILE SUD1980, PAGE 2 -- INVESTMENT

IND 77	36	37	38	39	40	41	42
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 80	0.03	0.19	0.01	0.03	0.10	0.22	0.04
IND 81	0.06	0.22	0.02	0.04	0.14	0.29	0.05
IND 82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 83	0.21	1.78	0.09	0.06	0.10	0.02	0.50
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	337.99	2148.97	78.51	335.91	839.98	405.31	387.79

LISTING FOR FILE SUD1980, PAGE 2 -- INVESTMENT

IND 77	43	44	45	46	47	48	49
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 80	0.02	0.15	0.17	0.89	0.49	0.21	0.04
IND 81	0.06	0.24	0.35	1.53	0.96	0.43	0.03
IND 82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 83	0.12	0.83	1.85	0.31	1.00	0.53	0.25
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	98.99	357.95	555.76	621.89	708.63	199.43	58.20

LISTING FOR FILE SUD1980. PAGE 2 -- INVESTMENT

[illegible]

LISTING FOR FILE SUD1980, PAGE 2 -- INVESTMENT

IND 77	50	51	52	53	54	55	56
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 80	0.14	0.01	0.14	0.24	0.10	0.01	0.01
IND 81	0.21	0.01	0.23	0.40	0.16	0.02	0.01
IND 82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 83	2.37	0.02	0.12	0.11	0.12	0.01	0.03
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EURDEN	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	580.49	22.67	219.84	529.98	275.27	30.91	36.09

IND 77	57	58	59	60	61	62	63
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 79	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 80	0.22	0.10	0.15	0.09	0.01	0.20	0.08
IND 81	0.38	0.15	0.22	0.17	0.04	0.42	0.18
IND 91	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 92	0.49	0.45	0.84	0.10	0.49	0.90	0.11
IND 83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 94	0.00	0.00	0.00	0.00	0.00	0.00	0.20
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.20
BURDPN	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	494.60	177.30	648.84	166.04	78.43	321.15	226.18

IND 77	64	65	66	67	68	69	70
	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	0.17	0.12	0.10	0.04	0.01	0.04	0.02
IND 90	0.41	0.24	0.21	0.08	0.03	0.03	0.05
IND 81	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 82	2.15	0.35	0.30	0.07	0.14	0.45	0.12
IND 93	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	376.03	239.87	341.11	142.80	147.43	202.91	54.14

IND 77	71	72	73	74	75	76	77
IND 78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 79	0.20	0.30	0.00	0.00	0.00	0.00	0.00
IND 80	0.01	0.02	0.14	0.73	3.76	497.44	1059.95
IND 81	0.02	0.05	0.28	1.59	7.93	1795.60	1920.92
IND 82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 83	0.15	0.29	1.37	1.72	10.92	0.00	0.00
IND 84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BURDEN	0.00	0.30	0.00	0.00	0.00	0.00	0.00
TOTAL	61.69	124.63	440.60	2173.65	4391.45	10717.35	15356.71

LISTING FOR FILE SUD1980, PAGE 2 -- INVESTMENT

	79	80	81	82	83	84
IND 39	0.00	0.00	0.00	0.00	0.00	0.00
IND 40	0.00	0.00	0.00	0.00	0.00	0.00
IND 41	0.00	0.00	0.00	0.00	0.00	0.00
IND 42	0.00	0.00	0.00	0.00	0.00	0.00
IND 43	0.00	0.00	0.00	0.00	0.00	0.00
IND 44	0.00	0.02	0.02	0.02	0.04	0.01
IND 45	0.03	0.07	0.22	0.17	0.29	0.09
IND 46	0.00	0.00	0.00	0.00	0.00	0.00
IND 47	0.00	0.04	0.01	0.01	0.04	0.10
IND 49	1.69	42.43	4.04	2.55	24.83	2.09
IND 49	0.00	0.00	0.00	0.00	0.00	0.00
IND 50	0.00	0.00	0.00	0.00	0.00	0.00
IND 51	0.00	0.00	0.00	0.00	0.00	0.00
IND 52	0.00	0.00	0.00	0.00	0.00	0.00
IND 53	0.00	0.00	0.00	0.00	0.00	0.00
IND 54	0.00	0.00	0.00	0.00	0.00	0.00
IND 55	0.00	0.00	0.00	0.00	0.00	0.00
IND 56	0.00	0.00	0.00	0.00	0.00	0.00
IND 57	0.00	0.00	0.00	0.00	0.00	0.00
IND 58	0.00	0.00	0.00	0.00	0.00	0.00
IND 59	0.05	0.09	0.09	0.07	0.13	0.25
IND 60	0.00	0.00	0.00	0.00	0.00	0.00
IND 61	0.00	0.01	0.01	0.00	0.01	0.00
IND 62	0.00	0.00	0.00	0.00	0.00	0.00
IND 63	0.00	0.00	0.00	0.00	0.00	0.00
IND 64	0.00	0.00	0.00	0.00	0.00	0.00
IND 55	0.00	0.00	0.00	0.00	0.00	0.00
IND 66	0.00	0.00	0.00	0.00	0.00	0.00
IND 67	0.00	0.00	0.00	0.00	0.00	0.00
IND 68	0.00	0.00	0.00	0.00	0.00	0.00
IND 69	0.00	0.00	0.00	0.00	0.00	0.00
IND 70	0.00	0.00	0.00	0.00	0.00	0.00
IND 71	0.00	0.00	0.00	0.00	0.00	0.00
IND 72	0.00	0.00	0.00	0.00	0.00	0.00
IND 73	0.00	0.00	0.00	0.00	0.00	0.00
IND 74	0.01	0.14	1.35	0.00	0.00	0.00
IND 75	102.52	6013.64	72.79	874.29	2302.77	19269.52
IND 76	0.00	0.00	0.00	0.00	0.00	0.00

IND 77	79	80	81	82	83	84
0.00	0.00	0.00	0.00	2.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.85	8.57	5.07	0.22	1.79	384.52	5.71
28.14	1.79	8.35	0.69	22.83	98.95	100.55
0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.28	1522.26	7.64	3.09	3.74	416.33	1.17
0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00
168.78	12523.81	5296.86	127.41	1027.91	4691.57	19611.62
TOTAL						

IND 1	85	TOTAL
IND 2	0.00	0.00
IND 3	0.00	0.00
IND 4	0.00	0.00
IND 5	0.00	0.00
IND 6	0.00	0.00
IND 7	0.00	0.00
IND 8	0.00	0.00
IND 9	0.00	715.32
IND 10	0.00	2313.71
IND 11	0.00	43.96
IND 12	0.00	2022.15
IND 13	0.00	642.61
IND 14	0.00	137.80
IND 15	0.00	48.35
IND 16	0.00	933.83
IND 17	0.00	2271.70
IND 18	0.00	1916.29
IND 19	0.00	401.59
IND 20	0.00	524.03
IND 21	0.00	596.35
IND 22	0.00	90.93
IND 23	0.00	1975.45
IND 24	0.00	1133.14
IND 25	0.00	402.90
IND 26	0.00	3205.96
IND 27	0.00	3164.29
IND 28	0.00	3136.54
IND 29	0.00	0.20
IND 30	0.00	3696.86
IND 31	0.00	0.00
IND 32	0.00	341.53
IND 33	0.00	2.22
IND 34	0.00	0.00
IND 35	0.00	0.00
IND 36	0.00	0.00
IND 37	0.00	0.00
IND 38	0.00	0.00

	85	TOTAL
IND 39	0.00	0.00
IND 40	0.00	0.00
IND 41	0.00	0.00
IND 42	0.00	0.00
IND 43	0.00	0.00
IND 44	0.00	1.21
IND 45	0.00	11.16
IND 46	0.00	0.00
IND 47	0.00	4.71
IND 48	0.00	778.35
IND 49	0.00	0.02
IND 50	0.00	0.00
IND 51	0.00	0.00
IND 52	0.00	0.00
IND 53	0.00	0.00
IND 54	0.00	0.00
IND 55	0.00	0.00
IND 56	0.00	0.00
IND 57	0.00	0.00
IND 58	0.00	0.00
IND 59	0.00	6.19
IND 60	0.00	0.00
IND 61	0.00	0.43
IND 62	0.00	0.00
IND 63	0.00	0.00
IND 64	0.00	0.00
IND 55	0.00	0.00
IND 66	0.00	0.00
IND 67	0.00	0.00
IND 68	0.00	0.00
IND 59	0.00	0.00
IND 70	0.00	0.00
IND 71	0.00	0.00
IND 72	0.00	0.00
IND 73	0.00	0.00
IND 74	0.00	13.65
IND 75	0.00	93976.94
IND 76	0.00	0.00

IND 77	85	TOTAL
IND 78	0.00	0.00
IND 79	0.00	0.00
IND 80	0.00	1995.35
IND 81	0.00	4025.39
IND 82	0.00	0.00
IND 83	0.00	2047.24
IND 84	0.00	0.00
IND 85	0.00	0.00
UND IMPS	0.00	0.00
BURDEN	0.00	0.00
TOTAL	0.00	122178.19

	1	2	3	4	5	6	TOTAL
IND 1	1.13	74.33	62.96	3.77	0.00	0.00	142.18
IND 2	0.00	4.63	0.00	0.00	0.00	0.00	4.63
IND 3	0.74	12.02	1.02	0.07	0.00	0.00	13.95
IND 4	35.75	12.93	6.26	53.05	0.00	0.00	109.00
IND 5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 6	121.47	1283.11	14.66	147.91	0.00	0.00	1567.15
IND 7	199.71	38.77	8.33	30.84	0.00	0.00	277.55
IND 8	1705.22	259.89	33.79	551.99	0.00	0.00	2650.90
IND 9	0.00	10.28	7.07	0.00	0.00	0.00	17.34
IND 10	608.77	817.44	62.47	44.86	36.98	0.00	1570.42
IND 11	6.02	33.47	8.81	11.48	0.00	0.00	59.79
IND 12	0.00	17.39	10.81	0.10	0.00	0.00	28.29
IND 13	0.00	2.43	18.83	1.76	0.00	0.00	23.02
IND 14	0.00	1.06	1.53	0.00	0.00	0.00	2.59
IND 15	0.00	24.28	46.27	0.00	0.00	0.00	70.55
IND 16	569.75	1717.45	466.84	259.87	4.45	0.00	3018.36
IND 17	0.00	30.01	99.07	15.56	0.00	0.00	144.64
IND 18	682.58	145.44	131.73	158.33	13.95	0.00	1131.93
IND 19	0.00	1.88	0.00	0.00	2.35	0.00	4.24
IND 20	141.75	39.51	14.07	0.60	0.00	0.00	196.33
IND 21	0.00	73.52	23.92	38.05	0.00	0.00	132.49
IND 22	0.00	24.54	0.27	0.15	0.00	0.00	25.26
IND 23	0.00	77.24	0.00	0.00	0.00	0.00	77.24
IND 24	0.00	539.84	16.92	1.03	0.00	0.00	657.79
IND 25	0.00	85.71	17.99	0.68	0.00	0.00	104.39
IND 26	0.00	4356.45	26.59	15.65	0.00	0.00	4398.59
IND 27	1593.85	864.52	539.24	256.92	4.92	0.00	3309.35
IND 28	0.00	13.25	35.77	5.87	0.00	0.00	54.90
IND 29	0.00	65.43	0.12	1.57	0.00	0.00	67.22
IND 30	2920.32	13947.97	267.31	203.30	-509.45	0.00	16829.34
IND 31	0.00	20.71	3.08	9.43	0.00	0.00	33.21
IND 32	1437.29	144.84	162.80	93.49	40.53	0.00	1878.94
IND 33	0.00	104.97	0.00	6.00	0.00	0.00	104.97
IND 34	0.00	2508.60	103.68	366.69	0.00	0.00	2978.97
IND 35	0.00	0.90	0.00	0.00	0.00	0.00	0.90
IND 36	0.00	39.67	0.00	0.00	0.00	0.00	39.67
IND 37	35.97	2242.95	12.37	48.06	0.00	0.00	2339.36
IND 38	7.05	52.26	0.74	1.71	0.00	0.00	61.75

	1	2	3	4	5	S	TOTAL
IND 39	59.15	50.51	0.04	11.07	0.00	0.00	120.79
IND 40	0.00	135.92	0.00	0.00	538.06	0.00	673.98
IND 41	0.00	24.93	0.00	0.00	0.00	0.00	24.93
IND 42	0.00	165.53	0.00	0.00	-167.04	0.00	-1.51
IND 43	2.32	13.62	12.92	41.01	0.00	0.00	69.86
IND 44	21.36	569.95	14.72	153.17	0.00	0.00	759.20
IND 45	838.95	1716.49	153.31	627.66	2.93	0.00	3339.24
IND 46	21.74	0.00	0.00	23.93	0.00	0.00	49.57
IND 47	3.64	19.14	1.31	3.16	-19.32	0.00	8.93
IND 48	2775.74	27.24	239.94	165.35	29.59	0.00	3237.96
IND 49	109.42	7.19	0.76	1.55	-30.55	0.00	89.35
IND 50	0.00	93.07	10.79	16.76	-12.14	0.00	108.49
IND 51	0.00	0.12	0.00	0.00	0.00	0.00	0.12
IND 52	0.00	0.00	0.00	0.00	-1.71	0.00	-1.71
IND 53	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IND 54	0.96	0.00	0.00	1.30	-2.59	0.00	-0.33
IND 55	0.00	0.26	0.00	0.00	0.00	0.00	0.26
IND 56	2.78	0.00	0.00	3.78	0.00	0.00	6.56
IND 57	9.12	0.26	9.41	12.37	-44.32	0.00	-13.16
IND 58	377.49	16.00	13.19	18.95	-6.26	0.00	419.27
IND 59	2225.92	146.06	1.93	94.38	-556.02	0.00	1912.28
IND 60	6493.87	0.00	0.00	273.63	288.04	0.00	7055.54
IND 61	872.18	234.65	0.57	36.93	186.01	0.00	1330.24
IND 62	21135.31	1476.09	27.09	738.16	238.30	0.00	23614.95
IND 63	7840.32	124.65	7.72	86.91	64.13	0.00	8123.73
IND 64	2722.55	91.72	1.69	421.52	132.69	0.00	3370.16
IND 65	20808.83	398.93	8.53	1694.39	341.70	0.00	23252.27
IND 66	9529.05	130.13	34.87	2030.30	-48.01	0.00	11676.34
IND 67	2949.99	1.23	1.43	271.97	-391.16	0.00	2933.36
IND 69	0.00	12.27	3691.16	0.00	-149.01	0.00	3545.43
IND 69	8271.37	72.48	2.02	438.35	-14.56	0.00	8769.57
IND 70	5685.94	4.71	1.61	301.33	-551.91	0.00	5441.69
IND 71	0.00	531.27	953.42	0.00	-127.79	0.00	1256.90
IND 72	1843.41	565.30	0.20	32.70	-4.92	0.00	2536.69
IND 73	15710.16	22.09	1.36	278.66	-1277.93	0.00	14734.34
IND 74	7459.97	913.24	46.46	974.05	130.49	0.00	9524.20
IND 75	0.00	6000.58	6405.45	5913.88	0.00	0.00	18319.91
IND 76	7950.19	27.80	0.00	166.99	9.39	0.00	8154.34

IND 77	1	2	3	4	5	S	TOTAL
IND 78	18353.09	33.52	0.00	629.54	3.19	0.00	19019.44
IND 79	0.00	4.56	0.00	0.00	0.00	0.00	4.56
IND 80	3352.91	3709.89	152.72	599.21	9.70	0.00	7924.43
IND 81	22552.94	1211.29	550.76	559.51	25.13	0.00	24899.52
IND 82	1052.07	115.11	0.00	125.39	-1.60	0.00	1290.98
IND 83	0.00	18406.90	43.09	23.96	0.00	0.00	18473.95
IND 84	17965.60	757.67	0.00	0.00	0.00	0.00	18723.27
IND 85	10612.32	102.16	0.00	0.00	0.00	0.00	10714.48
UND IMPS	0.00	9238.05	6326.43	35679.99	0.00	0.00	51244.37
TOTAL	209680.69	77059.03	20860.27	54974.47	-1812.07	0.00	360762.37

IND 1	1	1550.65	2	-1974.23	TOTAL	3	4
IND 2		97.93		-42.91	-423.58	1396.62	-2231.76
IND 3		11.21		-111.89	55.02	79.59	-30.43
IND 4		229.42		0.00	-100.69	9.97	-74.76
IND 5		1780.97		0.00	229.42	452.42	0.00
IND 6		1042.96		0.00	1790.97	10034.41	0.00
IND 7		752.49		0.00	1042.96	5330.17	0.00
IND 8		491.93		0.00	752.49	2277.44	0.00
IND 9		486.49		-255.22	491.93	271.03	0.00
IND 10		194.55		-173.65	231.27	405.13	-272.63
IND 11		15.13		-273.15	20.90	114.93	-476.70
IND 12		37.97		-458.12	-258.03	16.41	-171.00
IND 13		15.36		-147.33	-420.25	60.90	-608.25
IND 14		1.90		-15.09	-131.98	16.94	-283.00
IND 15		23.92		-8.37	-13.19	2.16	-25.27
IND 16		205.96		-176.14	15.55	26.63	-16.74
IND 17		347.23		-336.32	29.82	226.98	-350.06
IND 18		183.33		-486.99	10.92	726.65	-741.44
IND 19		31.45		-60.27	-303.66	125.39	-1100.54
IND 20		181.91		-275.76	-28.83	31.16	-148.23
IND 21		108.34		-99.96	-93.84	193.56	-411.02
IND 22		6.35		-26.57	8.37	109.74	-339.71
IND 23		122.06		-317.49	-20.21	6.32	-59.25
IND 24		160.99		-81.52	-195.42	100.77	-585.99
IND 25		32.30		-27.12	79.36	164.67	-199.59
IND 26		1267.93		-1482.09	5.18	83.52	-71.44
IND 27		434.50		-111.74	-214.16	1109.90	-2005.01
IND 28		253.52		-281.51	322.76	546.34	-131.43
IND 29		58.09		-10.97	-28.00	292.48	-549.17
IND 30		124.01		-332.83	47.11	65.91	-22.94
IND 31		0.00		0.00	-208.82	169.01	-1142.94
IND 32		13.35		-4.65	0.00	0.00	0.00
IND 33		0.00		-23.71	8.70	16.47	-12.90
IND 34		0.00		-62.00	-23.71	0.00	-60.41
IND 35		2.13		-12.09	-62.00	0.00	-126.95
IND 36		280.09		-53.65	-9.97	2.36	-13.10
IND 37		378.92		-598.06	226.44	179.03	-23.99
IND 38		18.14		-276.71	-219.14	414.00	-331.37
					-258.57	12.39	-123.61

	1	2	TOTAL	3	4
IND 39	259.57	-918.97	-559.40	103.07	-356.74
IND 40	0.00	-556.20	-556.20	0.00	-300.23
IND 41	42.97	-148.91	-105.84	23.92	-74.78
IND 42	2.03	-73.07	-71.04	2.33	-46.95
IND 43	3.77	-476.63	-472.86	2.16	-207.21
IND 44	84.67	-111.56	-26.90	44.35	-44.73
IND 45	302.56	-1763.74	-1461.18	133.60	-1265.44
IND 46	135.36	-20.76	114.60	293.29	-20.69
IND 47	247.33	-279.27	-31.95	369.45	-84.73
IND 48	24.52	-557.67	-533.15	17.60	-298.27
IND 49	19.42	-25.72	-6.30	12.59	-17.29
IND 50	355.96	-1024.82	-668.86	252.96	-535.03
IND 51	3.98	0.00	3.98	2.58	0.00
IND 52	29.70	-29.27	0.43	30.66	-4.73
IND 53	0.00	0.00	0.00	0.00	0.00
IND 54	0.00	0.00	0.00	0.00	0.00
IND 55	4.44	0.00	4.44	4.09	0.00
IND 56	5.49	-31.26	-25.78	4.10	-11.54
IND 57	0.92	-393.54	-392.62	1.97	-143.64
IND 58	8.15	-76.31	-68.16	9.53	-38.39
IND 59	1165.83	-3553.91	-2398.08	460.61	-978.41
IND 60	8.40	-1188.41	-1180.02	3.12	-366.42
IND 61	75.70	-265.64	-199.94	24.51	-170.15
IND 62	28.04	-2507.00	-2478.96	9.63	-721.91
IND 63	37.94	-2931.13	-2893.19	18.18	-1033.75
IND 64	593.69	-308.08	285.61	151.10	-72.31
IND 65	223.96	-103.63	120.33	40.00	-69.15
IND 66	141.15	-448.66	-307.51	33.55	-234.53
IND 67	73.12	-214.98	-141.76	31.03	-302.17
IND 68	146.35	-1836.56	-1690.22	102.63	-598.77
IND 69	0.00	0.00	0.00	0.00	0.00
IND 70	8.91	-70.75	-61.94	2.38	-70.09
IND 71	115.05	-224.50	-109.45	42.58	-176.42
IND 72	58.95	-591.82	-632.87	23.69	-439.82
IND 73	262.01	-3574.20	-3412.20	69.25	-4240.56
IND 74	381.85	-816.75	-434.90	177.24	-248.25
IND 75	0.00	0.00	0.00	0.00	0.00
IND 76	196.98	-4956.67	-4759.79	165.45	-2638.95

	1	2	TOTAL	3	4
IND 77	634.13	-2343.08	-1708.95	93.32	-649.19
IND 78	0.00	0.00	0.00	0.00	0.00
IND 79	0.00	0.00	0.00	0.00	0.00
IND 80	0.00	-4399.04	-4399.04	0.00	-4407.90
IND 81	62.33	-43.37	18.96	140.26	-25.72
IND 92	6167.34	-1901.84	4265.50	6361.91	-4149.63
IND 93	0.00	0.00	0.00	0.00	0.00
IND 94	0.00	0.00	0.00	0.00	0.00
IND 95	0.00	0.00	0.00	0.00	0.00
UND IMPS	0.00	0.00	0.00	0.00	0.00
TOTAL	22855.52	-47465.53	-24610.01	34806.27	-37783.91

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